THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLXV. DECEMBER 3, 1943 No. 5261

THE USE AND ABUSE OF TRANSPORT

A RECENT pamphlet issued by PEP in their "Planning" series* deals with our present transport problems under the above heading. This, as the title implies, concerns itself less with the detailed design of roads and other communications, on lines advocated by Mr. H. Alker Tripp, Major Bennett, Mr. H. G. Lloyd and many others, but is aimed more at summarising the part transport plays in Town Planning, and usefully supplements the studies that have lately been made in the general plans for London and some of our other cities.

After a few notes on the main influences that traffic facilities exercise on the social structure, the statistical aspects of present-day traffic are investigated, naturally on the basis of the more normal pre-war conditions. Some of the leading features of this may be quoted. As regards number of motor vehicles in relation to road mileage (excluding motor-cycles) Great Britain has 13.7, the U.S.A. 9.7, Germany 7.0, France 5.6, Italy 3.0 and Japan 0.2. Road improvements have lagged behind the rise in demand, which it is easy to realise when we find that at a given road point west of London motor traffic between 1925 and 1935 had increased by 200 per cent., and at a point eastward 278 per cent.; including horse-drawn vehicles the increases were 218 per cent. and 216 per cent. respectively.

This brings us to the question of delays in transport. It is found that through the city area the average speed of private cars was less than six miles per hour; the cost of delays in New York has been estimated at £70 million a year, and it is probable that in London it would be little, if any, less. The great toll of life and limb arising from accident has long been recognised as an urgent matter, casualties amounting to 236,555, with 6,539 fatalities, per annum (1936-7). Many useful notes are added as to purposes of travel, the proportions for occupation, services and recreation, and the relative cost per week to the worker on his journeys by road or rail.

The tendency to increased loss of time in travel between homes and work-places is another feature reinforcing the urgent demand for a comprehensive study, aiming at the reorganisation of all our provisions for transport and transit. The difficulties of the "peak periods" are reviewed, but the main factor in the whole problem is indubitably that of the distribution of population and industry—one of the types of "zoning" as the term is used by town-planners. It is usually desirable to segregate the larger factories from residential districts, and communications must be designed in accordance with this, both with a view to the economical handling of material and quick access for the workers; smaller factories for light trades can be more widely distributed and in closer proximity to the homes, though it is as well to group these, perhaps in the "flatted" form suggested by the Bournville Trust. This would be particularly useful in the case of family groups having various occupations, where though some members may have to travel others could find employment near at hand.

Passenger traffic dominates the residential areas, with their shops, schools, entertainments, etc., plus a more limited goods transport for supplies and removal of waste. Office sections are somewhat similar in this respect. The transport to and from factories, warehouses, wholesale markets, etc., much of it heavy in character, should as far as possible be kept distinct from the preceding, and not brought into the central parts of the city; it is pointed out that this idea is confirmed in the recent plans for the reconstruction of London. In general, the movement of industry outwards from town centres is an advantage in the organisation of transport and traffic, both by road and rail, and though this may appear to clash with the effort to reduce the time and energy taken up in journeys between home and work, this is not the case if the whole scheme of the plan is skilfully designed. Industrial and commercial areas have a preferential claim to certain positions owing to water transport, access to raw materials and for other reasons. As near as they can be found, pleasant and healthy sites should be allocated for housing, including the incidental demands in the way of shops, schools, clinics and other provisions. Communications then fall into their right place, as part of a well-considered programme; the demand they will have to fulfil would become clear and they can be planned in accordance with these.

Of course, transport by air is mentioned and the possibilities of the helicopter referred to, but the future of this is still somewhat indefinite. A further note deals with questions related to agriculture, mainly those of an educational character.

Bombing has to a limited extent simplified urban replanning in certain areas, but has not appreciably affected the problem of planning for transport as a whole. There is urgent need for a broad reconsideration of the whole problem of traffic if the chaos of the pre-war years is not to be renewed on a greater scale than ever with the return of peace. It is to be hoped that due notice is taken in official quarters of the rapidly growing literature of transport, to which the pamphlet under notice is a useful addition.

* 16, Queen Anne's Gate, London, S.W.1.

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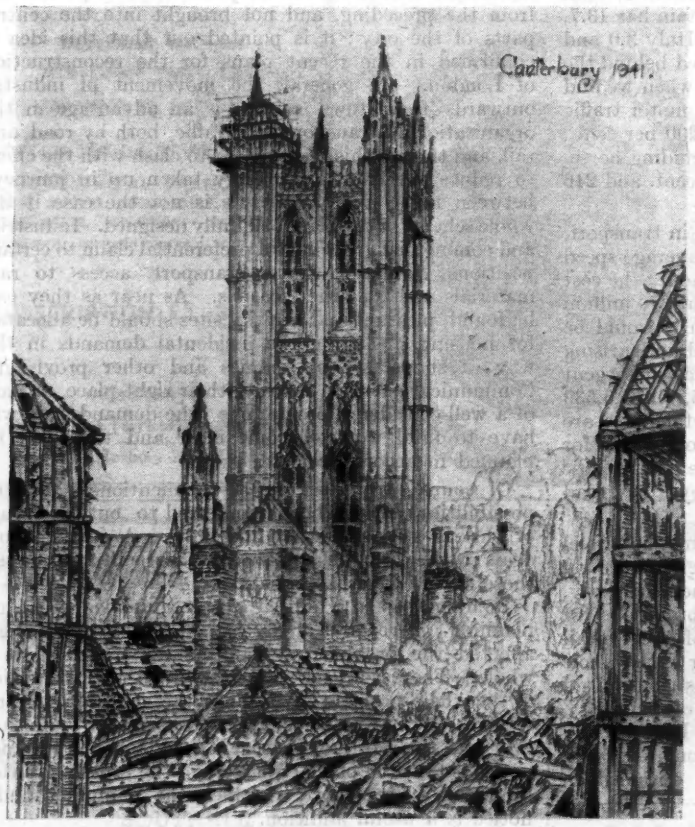
Architectural Riddles at Canterbury.

SOME architectural riddles have been exposed by enemy action which have puzzled many visitors to Canterbury (writes Mr. Sydney W. Cranfield, whose pencil drawing of Canterbury Cathedral is reproduced on this page). To take one example, overhanging storeys with walls apparently constructed of brickwork are of common occurrence, with no visible method of support. It has now been disclosed that these walls are constructed of timber covered with vertical tiles resembling bricks so exactly in size and in varying colours that their true construction is effectively disguised. These tiles, which are described by I. A. Archibald in "Kentish Architecture as Influenced by Geology," were known as "Mathematical Tiles," and were used from 1725 to 1850 either to satisfy a prevailing fashion which demanded brickwork in preference to plaster and half-timbered work in walls or to avoid the expense of bricks which were taxed at some time during this period. The custom extended beyond the city and the tiles are found in the street fronts of houses in neighbouring villages. The tiles are moulded so as to provide a shelf on the top for the course above to rest upon, allowing a lap of about 1¾ in. for the horizontal joints. The vertical joints are straight. The tiles were nailed about every four courses to horizontal battens and bedded in lath and plaster. The reason for these overhanging storeys would appear to be to protect the goods for sale on the stall boards in front of shops and the customers from the rain-water falling from gutterless roofs, and at the same time increase the floor area of the upper storeys at the expense of the limited amount of light and air permitted by narrow streets. While this method of increasing the accommodation in houses was generally practised in old walled towns, no attempt appears to have been made to construct party walls to divide buildings and so economise floor areas. Walls have now been exposed of a thickness out of all proportion to that now considered sufficient, and in some cases about one-quarter of the floor area at ground-floor level is taken up by walls dividing buildings of moderate size and height. Another feature of the city of interest to town planners is the narrowness of lanes leading out of the main thoroughfare. The following measurements were made before the war, giving the widths between buildings : St. George's-lane, 7 ft. 6 in. ; Burgate-lane, 7 ft. 6 in. ; All Saints-lane, 8 ft. ; Iron Bar-lane, 8 ft. ; and Rose-lane, 9 ft. These figures throw an interesting sidelight on mediæval transport.



VIEW OF CANTERBURY CATHEDRAL. DRAWN BY MR. S. W. CRANFIELD, F.R.I.B.A.

The London Plan and the M.W.B.

AFTER considering the County of London Plan in relation to the work of the Metropolitan Water Board, the Board has reached the conclusion that : "It is of considerable importance that the procedure for obtaining the necessary powers to carry the Plan into effect shall be known at an early date so that the interference with the Board's works and distribution system can be ascertained and application made for the appropriate protection. If detailed information is not disclosed before powers are granted to put the works involved by the Plan into effect, some difficulty will arise in advising as to what form the protection of the Board's interests should take. That large alterations to the Board's mains, apparatus and works will be required is fully evident from the comprehensive proposals in the Plan, and while the Board will no doubt co-operate in every possible manner it should be appreciated that heavy expenditure may be involved, and the Board should be reimbursed such expenditure."

Brixton School of Building.

VACANCIES will occur at the L.C.C. School of Building, Ferndale-road, Brixton, S.W.4, for : (1) a Principal, (2) Head of the Senior Day and Evening Building Departments, as from January 3 next. Both are full-time posts. The salary scales are : Principal, £850—£50—£1,050 ; Head of Department, £580—£25—£725. The Head of the Department should preferably hold a Fellowship, or an Associateship, of the Royal Institute of British Architects and be experienced in building construction ; his duties will include some teaching in both day and evening classes and responsibility to the Principal for the organisation and direction of the work of his Department. Applications should be made to the Education Officer (T1), the County Hall, Westminster Bridge, S.E.1 (stamped and addressed foolscap envelope necessary). All particulars, and form T1/40, to be returned, accompanied by copies of three recent testimonials, by December 13.

From *The Builder* of 1843

Saturday, December 2, 1843.

IMPROVEMENTS IN WESTMINSTER.—Workmen are busily engaged in pulling down the houses in the vicinity of Buckingham Palace . . . to make way for the new improvements. . . . The Rookery, which for several centuries has been the Westminster nuisance, being the refuge of the cadgers of London and the most profligate characters, is at length to be cleared away, and a square will be built on the spot. One of the greatest improvements in the City of Westminster is the proposed embankment of the Thames . . . from Westminster Bridge to the northern pier of the new Hungerford suspension bridge and thence to Blackfriars.

A VISIT TO SWEDEN IN WAR TIME

MR. YERBURY AT THE A.A.

At a meeting of the Architectural Association on November 23 Mr. F. R. Yerbury gave a lantern lecture on his recent visit to Sweden. The chair was taken by Mr. A. F. B. Anderson, the President of the Association.

Mr. Yerbury, after a tribute to the Swedish air pilots who maintained the service between Great Britain and Sweden in war time, said that he was not going to discourse on Swedish architecture, but only to relate some of the things he did over there. It was exciting to go to a country not at war, although Sweden had been much more affected by the war than some would suppose, and professional people—architects especially—had suffered very much. The architects of Sweden wished to be remembered to their colleagues in Great Britain, especially those in the A.A. and the R.I.B.A.

Apart from seeing his Swedish friends, it was interesting to have a close connection again with friends in Norway and Denmark. It was even a little difficult to remember that Finland was now among our enemies. Most of the Danish architects were at present all right. Swedish architects had the opportunity of crossing the straits and of meeting people in Denmark who were known in this country. About a year ago there was a combined exhibition of Swedish and Danish architecture in Copenhagen, and at one meeting, at which some Swedish architects were present as well as some German, there was a discussion on tradition in architecture. It was remarked by one speaker that there was much in the German tradition, but a good many also believed in the English tradition, and at that sentiment there were cheers.

He met a number of architects who had escaped from Norway and were at work in Sweden, where they were very kindly treated. There had been criticism of Sweden because she was neutral, but she had held out a very friendly and helpful hand to people in other Scandinavian countries. In Norway there were some architects who were still in concentration camps, for no reason at all except that they would not join in with the quislings. There was a quisling society of architects in Norway—a new society with, he thought, two members! What corresponded in Norway to the R.I.B.A. had been banned.

A conference on prefabrication and standardisation had recently taken place in Finland and was attended by some Swedish architects. The Finnish-Russian line was fairly static, and Finnish soldiers were actually spending their time making standardised windows and doors and sending them back to the peasants who needed houses in the country. He mentioned these odd connections because he wanted people here to realise what a difficult situation the Swedes were in, particularly the professional people who had friends in all countries and found it difficult not to sympathise with all of them in their troubles.

In Sweden there was a great shortage of some materials, but not of timber, which was stacked up in the streets of Stockholm, and any number of matchboxes could be taken away in the pocket without anyone saying a word. Architects were busy because their staffs had been reduced through army mobilisation, and they were helped by a number of Norwegian and Danish architects who had escaped from their countries. A certain amount of building had been done. Jobs which were started before the real pressure of the war was felt had been completed, but nearly all the buildings put up had been of the utility kind—military barracks, as well as houses and schools. There was no luxury building. One of the newer buildings in Stockholm, although it was in existence before the war, was the airport, which was comparatively small but included a pleasant reception hall and a social centre and restaurant, rather in contrast to the dulness of Croydon.

In many parts of the streets of Stockholm things looked very much brighter than formerly. The city had a new parks architect, appropriately named Blom, who had introduced what might be called portable gardens. Wherever there was an open space or vacant corner in the streets large pots of flowers were placed, varied in colour and position with the season. The general effect was very pleasing. The whole thing was done in an informal way. In all the larger parks areas had been arranged for children's play, and cottages adjoining the parks had been taken for the same purpose. The same movement towards decoration and amenity was found on the banks of Lake Mälar, which ran through Stockholm. Another instance of the same kind was the turning of an old quarry into a swimming-bath.

Stockholm had had an enormous spate of flat building. It had become almost a city of flats, some of them going up for eight or ten stories. The impression he got was that they were very much overcrowded, and there was a slight danger of slum conditions being created; one of the biggest sinners in this respect was the municipality, which had allowed a whole area in one part of the city to be covered with flats far more congested than they ought to be. One of the last buildings he saw finished was a block of one-room flats, each having a bathroom and kitchenette. His own feeling was that the flats in Stockholm were becoming smaller.

Everyone was talking about prefabricated houses. Swedish manufacturers were very anxious to export some of these prefabricated houses to England. The average house on the outskirts of Stockholm cost about twice as much as a house of similar accommodation in this country, even though it was prefabricated. One of the reasons for the extra cost was that the Swedish people always had a cellar, used for storage, a central heating boiler, a copper and a bath. On the top of this there might be a bungalow of two or three rooms or a house with two downstairs and two upstairs rooms. The cellar having been constructed, the prefabricated portions were brought along and their erection took a very little time; sometimes they were put up by the prospective tenant. But in general the cost of erection was out of all proportion to the cost of materials, for the reason that the skilled labourers were paid very high rates of wages—up to 12s. or 15s. an hour—and got a special rate because they claimed that prefabrication did away with a certain amount of their own skilled work.

Mr. Yerbury showed photographs illustrating various types of domestic architecture in Stockholm, including some terrace houses centrally heated from a boiler at the end house where the caretaker and his wife lived. There were in general two types of kitchens, one a very tiny "workshop" and the other a larger kitchen with a recess in which the family might have their meals. He showed one view of an architect's house at Malmo, where the names of distinguished architects were inscribed on the wall. This house included one very large room in which it was intended that the whole family should live and do everything together, but there was a cosy corner with a brick fireplace. He also showed the house where Asplund died. Asplund insisted on open fires and large chimneys. The abundance of plants and creepers in Swedish interiors was a noteworthy feature.

Some photographs of modern school architecture were also exhibited, together with the pleasant interiors of the newest Stockholm cinema theatres, all of them designed in very good taste and with practically no extraneous decoration. Mr. Yerbury mentioned the use of brick in Sweden. This was increasing; a brick industry had been developed and had expanded considerably in recent years. It had become a popular material not only for facing but for general structure.

The lecturer concluded with a reference to two special buildings. One of them was a telephone factory, and here he showed the handsome boardroom, which included some fine marqueterie. This was the most "swell" factory in Stockholm. The other building was the new crematorium, the last work of Asplund. It lay on the south side of Stockholm, and not only was it a very pleasing building in itself, but the surrounding landscape had been adapted—by the planting of trees and the scooping out of a large amphitheatre where a great concourse could assemble on the occasion of a public funeral—to fit it. He showed the entrance to the principal chapel and the interiors of all three chapels.

DISCUSSION.

In some brief discussion following the lecture, the Swedish Consul-General (Mr. E. G. Sahlin) said that Mr. Yerbury, who he thought had been to Sweden 12 times, was a pioneer evangelist and observer, and had done much to bring Swedish and British architects into closer acquaintance.

Mr. Percy Thomas said that he had been struck by the simple and rather nice furniture in the workers' houses. That was a lesson which in this country should be taken to heart.

Professor W. G. Holford said that Sweden seemed to be making, even in war time and under limited conditions, very good use of its technical people. They were evidently employing landscape architects and paying a great deal of attention to the social aspects of landscape gardening. He thought that the Swedes had much to teach us in the way of the small tidiness of life—tidy living, and, as the photographs of the crematorium showed, tidy dying. The standard of building was extremely high. The Swedes paid for their buildings, and were content to pay for them. One paid in Sweden for an extremely well insulated house, with a much higher degree of equipment than was aimed at or thought necessary in this country. Things like sinks and refrigerators and high insulating walls and windows, which were always double, must be taken into account in assessing cost. The attention paid to decoration was really thrilling to an architect who for four years had been doing his "utilitarian damnedest" to build quickly and without much sense of permanence. He concluded with a tribute to Swedish hospitality.

The President said that although Mr. Yerbury had temporarily left the realm of the architect for that of marshaller of building materials, he had lost none of his ability to tell a good story or the power to give a witty account of his travels.

Mr. Yerbury briefly replied.

ARCHITECTURAL EDUCATION

A DISCUSSION AT THE A.A.

An informal meeting to discuss the subject of Architectural Education was held at the Architectural Association, Bedford-square, W.C., on Thursday evening, November 18. Architects were present from Canada, the United States, Czechoslovakia, France, Greece, Holland, Norway and Poland, while the Architectural Association's school was represented by Mr. Frederick Gibberd (who presided over the meeting), Mr. Cecil Stewart and Mr. Brian Peake.

Opening the proceedings, the CHAIRMAN said that the Architectural Association was nearing its Centenary, having been founded in 1847. Its school had been started in 1901. This was run by architects for architects, and was thoroughly democratic in its methods. He was the Principal, but responsible to a Council elected by the members. His staff met every week to decide the running of the school, and the students themselves had a meeting every week. Because of this thoroughly democratic structure the school had been able to experiment and to be to an extent a pioneer.

MR. G. FAIRWEATHER spoke of the technical side of the school, which, he said, inclined to regard construction of buildings as an element in design, not as a procedure to follow design. The subject was divided into four main headings, the first of these being the requirements in buildings that arose from the use to which they were to be put. Such requirements included stability, weather protection, heat insulation, precautions against the spread of fire, and other things of that kind. Next came the study of materials. The student probably came to the school with a good idea of materials, as to whether they were rough or smooth, brittle or otherwise, etc.; he was now taught about susceptibility to condensation, resistance to the passage of sound, and more exact conditions governing their strength. As to construction, the school was not so much concerned to teach the student that a brick erection was built in one way and a reinforced concrete one in another, as to get him to appreciate that in any system construction must be brought into consideration at an early stage. The student was taught to feel his responsibility to make the system an answer to every requirement of the problem in hand. Working drawings were made and these were given a great deal of supervision. The school was not so much interested in the student displaying knowledge of his subject as in seeing that he was able to offer all relevant information to the builder in the right form and with the right characteristics. The school had a well-stocked library; it kept building materials, models and other things which students found useful. Visits were arranged to workshops and to buildings in course of erection.

MR. CECIL STEWART said his aim was to develop in the student a general appreciation of line, form and colour—to develop appreciation rather than to impose artistic formulæ. For example, the student was not given a system of colour theory, but encouraged to find out what reactions colours gave. In the same way, at a very early stage in his career he was encouraged to make his own research into the qualities of surface of materials and to study pattern and form. It was hoped in this way to bring him to a deeper understanding of the qualities of good design. The student, on first coming to the school, had but a limited experience of drawing, but he learned that to design buildings it was necessary to be able to draw, and was taught to draw through having to design. The school's aim was not to produce master draughtsmen but to instil an understanding of line and form, and to make it easy for students to express their ideas clearly on paper. Only about one week was given to life drawing in a course that covered five years; in this case drawings of the human figure from different points of view were considered as elevations of different facets of the figure. From these studies a clay model was made. This training did not produce first-class models, but it produced a deeper understanding of study in the round. More important than the study of the human figure was the study of the landscape. This aimed at developing a greater consciousness of the English scene and stressed the importance of relating the buildings as design not only to the contours of the site but also to the trees and shrubs.

MR. BRIAN PEAKE said that in the school the student found that architecture was a social problem, largely a matter of common-sense, finding out what was to go on in the building to be erected, and designing around that. The first thing the student had to do was to design a small single-cell building. From this he went on to larger single-cell buildings, and so to multi-storey and multi-purpose buildings, and even to groups of buildings. He was taught to plan exterior and interior so that they were all one, and every building was studied in relation to its site. The student was encouraged to try to determine what information the builder would need. The school staff tried to do its work by discussion with the students rather than by laying down dogmatic rules.

MR. V. FURTH (Czechoslovakia) said he would like to stress from his experience that all details should be done in only one way. This way became a language from architect to builder which workmen and everyone could understand.

Replying to this, the Chairman said the average working drawing from the architect's office contained too much information, but it was not actually directed at the sub-contractor who was doing the job. This was Mr. Furth's point, and he agreed with it.

CAPTAIN GIRARD (France) said many French architects looked on the teaching of architects as crippling the student for life. The problems of post-war reconstruction would result either in the disappearance of the architect or his rehabilitation, if the necessary reforms were carried out in teaching. New requirements for comfort must be superimposed upon the framework. Heat requirements modified even the structure of the external wall, which was no longer chiefly useful as a structure but for insulation. Such considerations allowed the architect to appeal to a tradition that closed the door against new technique; but to appeal to tradition in such a way was to grasp its mere form while losing sight of its deep meaning. If the profession of architecture was to survive, the subject must be taught in a way that allowed it to follow social evolution. It must develop the student's imagination, and, still more, the spirit of analysis, discrimination and order. Having decided upon its plan, the student should try to put it into execution, so as to become accustomed to the periodical exercise of composition and the technical difficulties on the construction side. The teaching of architecture should be organically linked with practical work in factory and workshop.

MR. P. MORO said common sense could not be a sufficient approach to the fulfilment of certain architectural functions of a high artistic order. The functional approach was sufficient in such a building as a brewery, but the range of architecture was a wide one, and as you went along the scale the functional aspect became smaller and the emotional wider. Modern architecture was unpopular because of its neglect of the emotional and artistic side.

MAJOR MOODY (Canada) said a school of architecture should not concentrate on teaching students to turn out working drawings; they would learn that once they became juniors in the offices of practising architects. The school should give a background of culture and a good grounding in the history of architecture and the appreciation of art. On top of that, it should concentrate on construction subjects if architects were to keep up to date and not let the engineers shoulder them out of the way. They must realise that this was an age of big business and mass production, where the materials being used were entirely different from those of the past.

The Chairman said that most of the people working on mass production in this country were architects.

MR. VAN ROOD (Holland) said that in his country the Central Government School of Architecture was in the University of Delft, in which engineering subjects of all descriptions were also taught. During the first two years, or two and a half, the student studied mechanics, surveying, etc., learning more than a boy or girl of 17 or 18 could learn with any good result. They were already 20 or 21 years old when they made their first drawing. He thought 90 per cent. of them were dazed when they came from the University, and for the first five or six years were of little use in the architect's office. He thought the Architectural Association's school had found the right way

COMING EVENTS

Saturday, December 4.

INSTITUTE OF QUANTITY SURVEYORS. North of England Branch Meeting. County Hotel, Neville-street, Newcastle-on-Tyne. 2 p.m.

Midlands Branch Meeting. "White Horse" Hotel, Birmingham. 3 p.m.

Monday, December 6.

ROYAL SOCIETY OF ARTS. Mr. W. A. Robertson on "Timber: The Minor Products." The Adelphi, W.C.2. 1.45 p.m. (preceded by sandwich luncheon at 1 p.m.).

Tuesday, December 7.

DESIGN AND INDUSTRIES' ASSOCIATION. Mr. A. E. Hewitt on "What Design Has Meant to the Pottery Trade." Royal Society's Rooms, Burlington House, W. 1.30 p.m. (preceded by sandwich lunch at 12.45 p.m.).

Wednesday, December 8.

ROYAL SOCIETY OF ARTS. Mr. A. C. Bossom, F.R.I.B.A., M.P., on "Some Modern Methods of Construction Practised in America." The Adelphi, W.C. 1.45 p.m. (preceded by sandwich lunch at 1 p.m.).

L.M.B.A. Central Area No. 5. Luncheon at Putney. Mr. H. C Harland, F.I.O.B., guest of honour. Major G. P. Parker to preside.

Thursday, December 9.

INSTITUTION OF ELECTRICAL ENGINEERS. Messrs. W. Fordham Cooper and F. H. Mann on "Industrial Fire Risks." Savoy-place, W.C.2. 5.30 p.m.

BRITISH ROAD FEDERATION. Exhibition "Motorways for Britain." 22, Lower Regent-street, S.W.1. (Open until December 24.)

TOWN AND COUNTRY PLANNING ASSOCIATION. Mr. A. C. Bossom, M.P., on "Modern Building Methods." 1, Grosvenor-place, S.W.1. 12.45 p.m.

Friday, December 10.

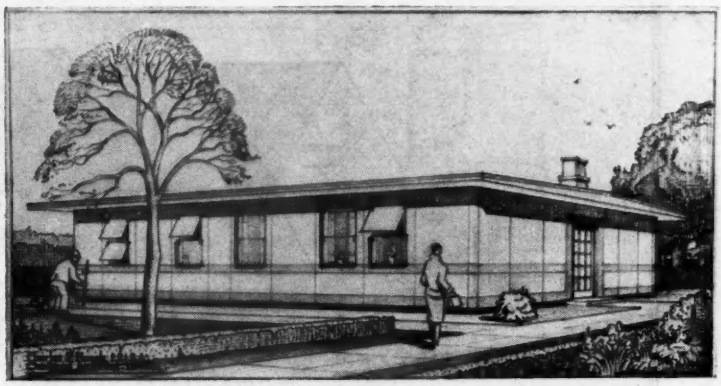
C.P.R.E. Annual Meeting. (Addressed by Mr. W. S. Morrison and Dr. Dexter M. Keezer.) Chartered Surveyors' Institution, Great George-street, S.W.1. 11.30 a.m.

INSTITUTION OF MECHANICAL ENGINEERS. Mr. S. Livingston Smith on "Survey of Plastics from Viewpoint of the Mechanical Engineer"; Mr. J. L. Daniels on "Moulding Plant for Plastics." Storey's-gate, S.W.1. 5.30 p.m.

"ECONOMIC HOUSING"

INTRODUCING A KITCHEN & PLUMBING PREFABRICATED UNIT

DESIGNED BY MR. CHARLES E. ELCOCK, F.R.I.B.A.



PERSPECTIVE OF A PREFABRICATED AND COMPLETELY DEMOUNTABLE HOUSE.

AN EXHIBITION WHICH IS NOW BEING held at the Alliance Hall, Palmer-street, S.W.1, has as its object to show how post-war housing can be financed without subsidies from the State, or county or municipal authorities. Mr. J. Taylor Peddie is the author of a scheme for finance which he has termed "The Charter of Equity," and this Charter, together with photographs illustrating L.C.C. housing developments and plans showing modern post-war houses, are displayed in the hall.

A model of a prefabricated house, designed by Mr. Charles E. Elcock, F.R.I.B.A., on exhibition, is constructed in units 3 ft. 4 in. wide, which are adaptable to a great variety of plans, according to the requirements of individual clients, or their architects. The house is largely constructed of plastic-bonded plywood with an insulating core making an outside wall 2 in. thick for houses of the bungalow type.

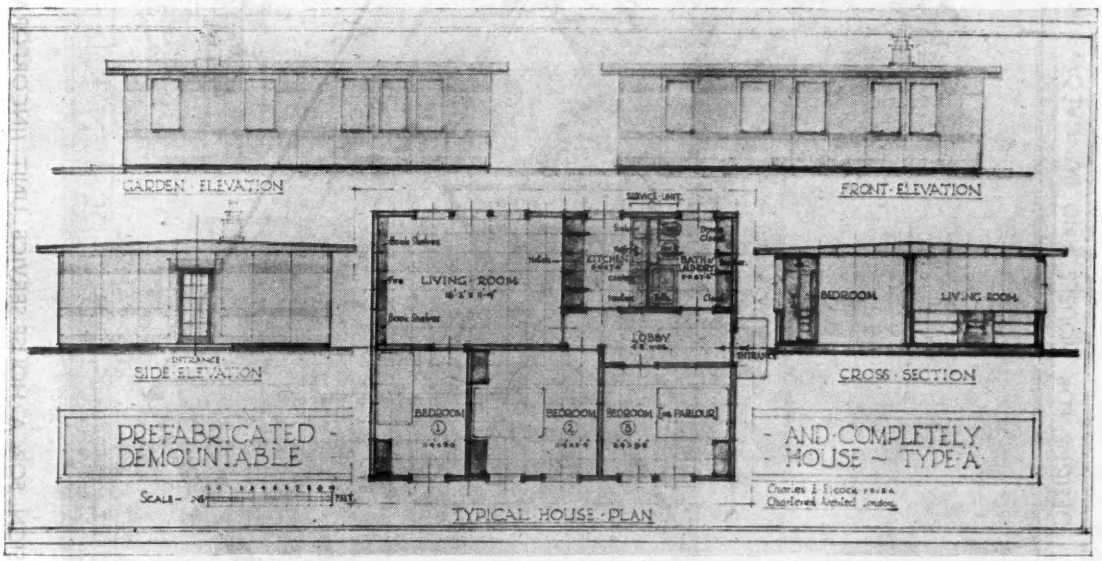
Drawings of a "Domestic Service Unit" are also shown, with plans which illustrate how this unit can be applied to various types of dwellings, including single-storey and two-storey houses and flats. We understand that Messrs. Sankey-Sheldon, Ltd., are actually engaged in making the first full-size working unit, and it is hoped to have this ready early next year.

A constructional unit of this character, whether of one part or two parts, will be assembled and built in a workshop or factory, site work being reduced to coupling-up the prepared ends of the pipes to the existing drains, service mains and other pipes and power leads.

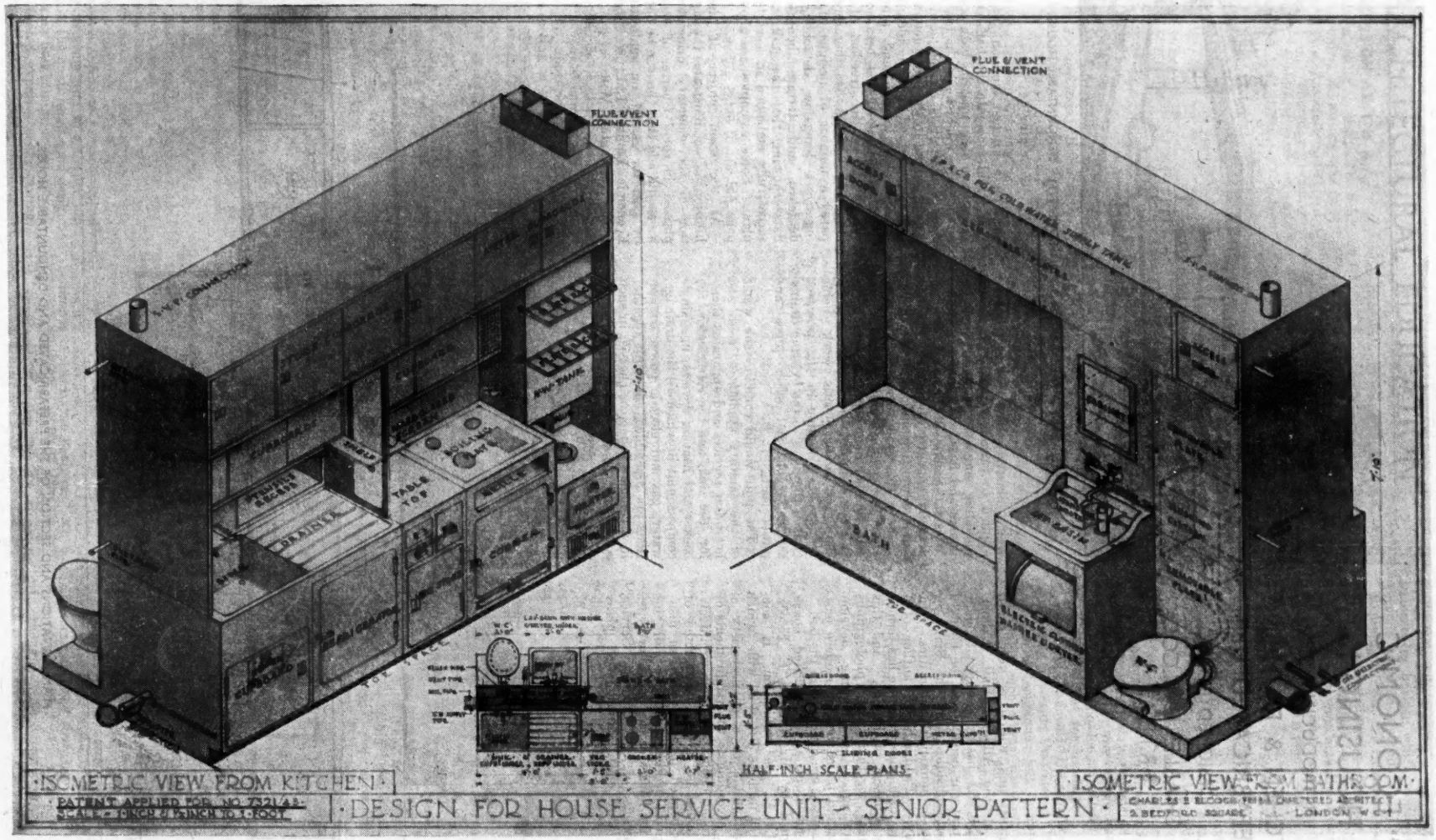
The unit would combine the whole of the sanitary appliances, cold- and hot-water services and apparatus therefor, the sink, and the refrigerator, the cooker and heating devices, in a single compact unit in which all the drainage, water, gas and electric power connections are assembled and built together in a common frame, or chassis, in such a way that on one side the unit would abut on a kitchen, and on the other side would face into the bathroom, or in the case of an upstairs bathroom one of the units would be in the bathroom. Such a unit, it is claimed, can effect a great saving in the construction cost.

We understand that the idea of the prefabricated kitchen and plumbing unit has been criticised because it is thought to restrict freedom of planning. Mr. Elcock has therefore prepared a number of designs of varying types—bungalow, detached, semi-detached and terrace houses and flats—showing that the unit can be successfully embodied in a variety of plans. Some examples are shown on page 451.

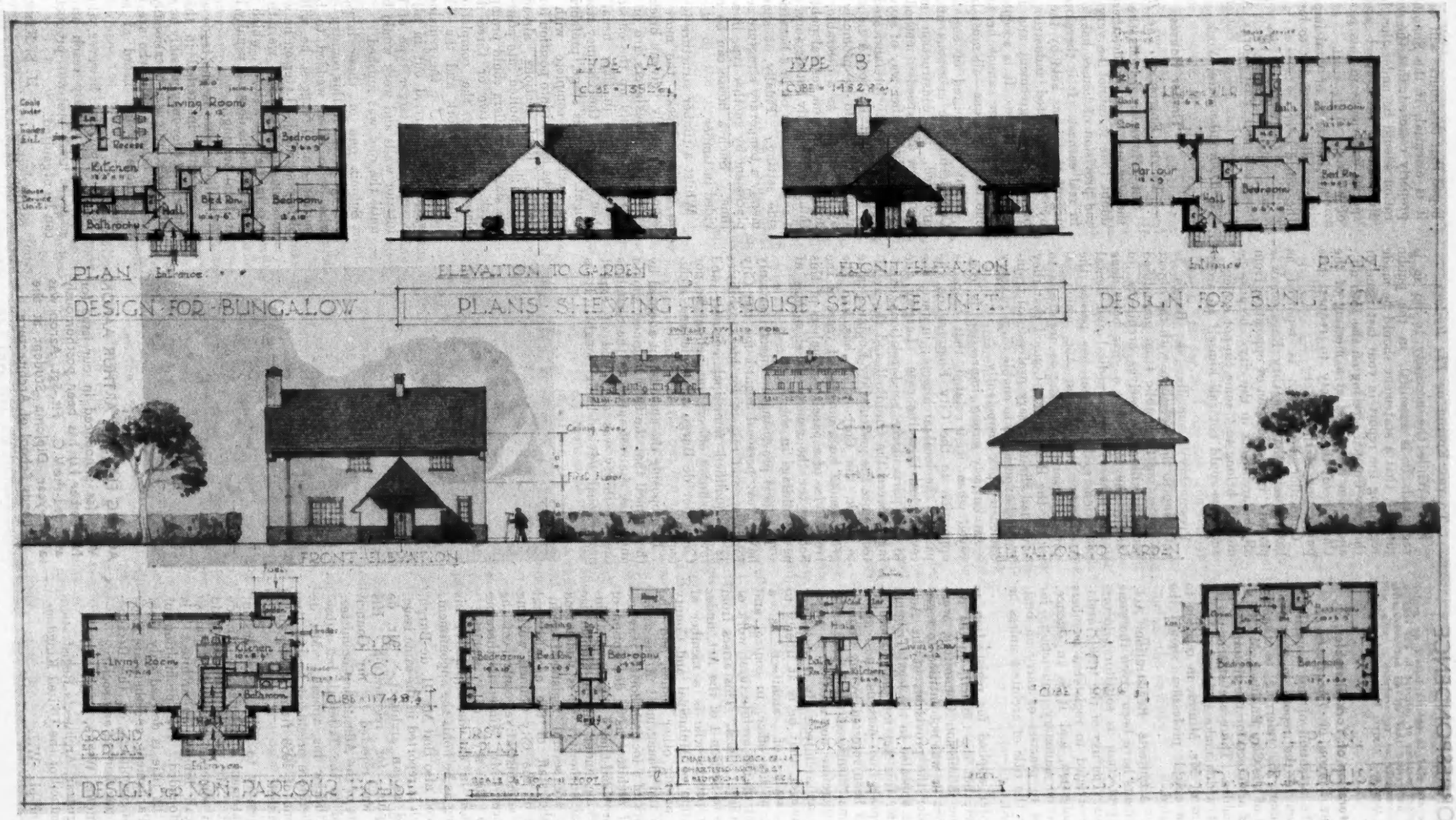
As the main object of the exhibition is to illustrate the application of the monetary principles explained in the "Charter of Equity," we should add that this can be obtained by post for 2s. 2d. on application to Economic Equity, Ltd., 26, Stafford-court, Kensington, W.8.



PLAN, ELEVATIONS AND SECTION OF THE PREFABRICATED AND DEMOUNTABLE HOUSE.


FLUE & VENT CONNECTION
ISOMETRIC VIEW FROM KITCHEN
PATENT APPLIED FOR NO 7321/43
DESIGN FOR HOUSE SERVICE UNIT - SENIOR PATTERN
HALF-INCH SCALE PLANS
FLUE & VENT CONNECTION
ISOMETRIC VIEW FROM BATHROOM
CHARLES E ELCOCK, F.R.I.B.A. ARCHITECT
2 BEDFORD SQUARE, LONDON, W.C.1

DESIGN FOR A HOUSE-SERVICE UNIT (INCORPORATING A KITCHEN AND BATHROOM UNIT). DESIGNED BY MR. CHARLES E. ELCOCK, F.R.I.B.A.



DESIGNS FOR HOUSES AND BUNGALOWS INCORPORATING HOUSE-SERVICE UNITS. DESIGNED BY MR. CHARLES E. ELCOCK, F.R.I.B.A.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Restoration of York Shambles.

To the Editor of *The Builder*.

Sir,—The attention of my Council has been drawn to the report in your issue of November 26, referring to the appointment of the City Engineer, Mr. C. J. Minter, as architect for the restoration of York Shambles. There are statements in the report which make it necessary that the position of Mr. Minter, in relation to the architectural profession should be clearly stated.

By the Architects Registration Act, 1938, architects have been given the same statutory protection as solicitors, doctors and dentists. The use of the title "architect" is restricted to registered members of the profession, and it is an offence, punishable on summary conviction, for any person to practise or carry on business under the title of architect unless he is registered.

Mr. Minter applied for registration as an architect, but the Council, on the report of the Admission Committee, were satisfied that he was not entitled to registration under the provisions of the Act. Mr. Minter appealed to the legal Tribunal set up under this Act for the purpose of hearing appeals from persons whose applications had been rejected by my Council. This Tribunal dismissed the appeal. Mr. Minter is therefore not entitled to registration as an architect. It is necessary to add, however, that he is at liberty to use the style of architect as a description of his office, in control and management of the architectural work of the York City Council. This arises from the proviso to Section 1 of the Act, under which any person who is a member of the Institution of Municipal and County Engineers, among other bodies, and who has control and management of the architectural work of a local authority, may use the title of architect as a description of his office, provided that a registered architect is working under him in the service of the local authority. It is understood that there are several registered architects on the staff of the architectural department of the City Council working under the administrative control of the City Engineer. Mr. Minter is therefore entitled to the style of "architect" *honoris causa* in the description of his office, so long as he holds the appointment.

It is noticed also that Mr. H. de Burgh, whose speech is reported in the same issue, is described as an architect. Mr. de Burgh applied for registration. His application was rejected by my Council on the report of the Admission Committee. He appealed to the Tribunal, but subsequently withdrew his appeal. Mr. de Burgh is therefore precluded by the Act of Parliament of 1938 from styling himself an architect.

It is necessary to add, in conclusion, that the statement attributed to Mr. de Burgh, that "Mr. Minter had not paid a guinea to some tin-pot society and so could not call himself an architect" is entirely unfounded. The prohibition of the use of the title is derived only from the Act of Parliament, and there are some thousands of arcnitects on the Register who are not members of any society.

Pembroke Wicks,
Registrar, Architects Registration Council of the United Kingdom.

68, Portland-pl., W.1.

To the Editor of *The Builder*.

Sir,—While the necessity to do so is regretted, it is essential, in the public interest, that a statement should be made regarding the report in your last issue of the City Council meeting on the 15th ult., and I am instructed at a meeting of the Council of this Society to request the publication of this letter.

Councillor de Burgh is reported as having said that the City Engineer was placed "in the position of opposition from all the architects in the city" because he did not belong to "some tin-pot society" and thus could not call himself an architect.

Presumably Councillor de Burgh is referring to the fact that, with the object of protecting the public from unqualified persons calling themselves architects, in exactly the same way as has been done in the case of legal, medical and dental practitioners, Parliament has passed the Architects Registration Act, which requires persons practising as architects to satisfy the Registration Council that they have had the necessary professional training and experience to enable them to carry out their work competently.

An entirely wrong impression is conveyed when it is stated that there is opposition to the City Engineer on the part of the local architects; in fact, the reverse has been the case. Largely due to the particularly good relations existing between the Guildhall and the architects since the present City Engineer came to York, the Corporation has had the great benefit for a number of years of the free advice of a panel of members of this Society for the control of elevations of new buildings in the city.

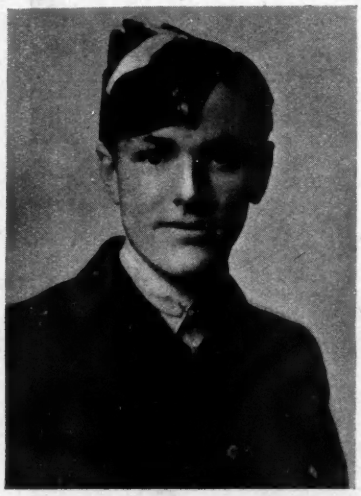
The local practising architects certainly have great personal regard for the City Engineer, and respect for his capabilities as a qualified municipal engineer and town planning officer, but neither he nor Councillor de Burgh are registered architects.

In proposing the amendment adopted by the Council that the City Engineer should undertake the restoration of the Shambles the possibility was suggested of expert professional advice being sought. It is hoped that this course will be followed, as it is essential, if the Shambles is to be properly restored, that the work of restoration should be under the close personal direction of a trained architect with special experience in this particular kind of work.

This matter is of vital importance, not only to all citizens, but to lovers of York the world over.

C. R. Thorp, Hon. Secretary,
York and East Yorks Architectural Society.

3, Duncombe-place, York.



ACTING FLT.-SGT. ARTHUR AARON,
Who (as announced in our issue for November 12) has been posthumously awarded the V.C. Flt.-Sgt. Aaron was a 2nd-year Diploma Student at the Leeds School of Architecture.

Timber Houses.

To the Editor of *The Builder*.

Sir,—However arduous the winning of the war may prove to be, there can be no doubt that it cannot be very long before the provision of houses has to be tackled in real earnest. It is therefore still more urgent that ideas held by the public and by the interested industries should be brought into agreement and harmony as early as possible. It is accepted that the housing problem cannot be met by any one industry alone—all must help.

What is required of our new house? Considering the enormous number to be provided, its construction must admit some new and speedier methods, which is really only another way of saying it must be at least partly prefabricated. If possible, it must be roofed in at an early stage. It should be promptly acceptable by its occupier as a desirable, permanent home, and by the general public as something æsthetically satisfactory, whether in a suburban area or in a beautiful countryside setting. Finally, it should not be merely a temporary structure requiring replacement by another type in a few years' time. Such a house can be readily provided in timber.

Whilst a timber structure is often built on concrete blocks, the more permanent type is usually given brick footings. Whilst the bricklayers are on this work they would build up the outside walls to first-floor level in their usual way, and then complete the chimney-stacks to full height. At this stage, prefabricated timber sections, complete with windows, would be hoisted into position for the upper storey. Roof sections, already lathed, would then be bolted into position so that the slaters or tilers could promptly get to work. Only two or three days would elapse between the completion of the limited brickwork and the whole house being available for the remainder of the work to be carried out in all weathers. Except in the larger type of houses, all interior walls and work would be deferred until the roof was finished.

Submit one of these houses to the average person in this country—the person who is so often wedded to bricks and mortar—and I suggest he will be completely satisfied. Later on he will become conscious of a pleasant warmth and cosiness in the upper storey, which is just the place where he does not usually have much artificial heating.

I believe there is one trade association, at any rate, interested in this type of house, and they may possibly be well ahead with their designs. Occasionally one also hears of other people who are wondering why more is not heard of some such scheme.

It is important, however, that discussions should quickly reach an advanced stage so that post-war production plans can be organised.

H. S. Kennington.

Sutton, Hull.

"Practical Planning."

To the Editor of *The Builder*.

Sir,—I welcome the leading article on the above subject in *The Builder* for November 26. It is timely, and draws needful attention to a situation which probably disturbs the minds of many who are watching the issue of this crucial problem of reconstruction with mixed feelings of hope and fear lest a golden opportunity for the benefit of future generations should be lost through personal ambition and the age-old struggle for supremacy and power.

The three schemes for London which have been placed before us are obviously the result of a great amount of thought and expenditure, and they have received varying degrees of official patronage. If now, when the initial general enthusiasm and interest subsides, progress towards realisation of co-ordinated schemes is hindered or prevented by any kind of competition for precedence and power amongst the several bodies who hitherto appear to have been acting independently of each other, it will be a national disaster, and a serious reflection on the public spirit of those in positions of eminence and power to influence decisions.

"United we stand, divided we fall," is an axiom which governs all great endeavours. The time is now ripe for the formation of a strong independent and fully representative advisory council embracing not only those who have already produced the schemes, but also other professions and authorities whose knowledge and experience are a necessary adjunct to a full and complete consideration of all aspects governing this complex problem of replanning and reconstruction. Such a council, if independent of any Ministerial Department, would give the public an assurance and a guarantee that the needs and ideals of the general public will receive sympathetic attention.

Piecemeal planning means stunted and short-sighted policies. Hitherto replanning has resulted in the solving of one immediate problem with very little regard for future progress, evolution and expansion. The solution has generally created greater disadvantages and difficulties in the social life.

As a private citizen, I desire to endorse your final appeal, and to beg the several authorities to work together for the common weal, and so avoid giving the public occasion for cynicism.

W. F. H. Stevens.

52, Ebury-street, S.W.1.

To the Editor of *The Builder*.

Sir,—It pains me to suggest that the leading article in last week's *Builder* may contain the very germ which caused the sickness from which the architectural profession is still suffering to-day. Are architects a weak-kneed crowd? Or are they too proud to fight for a great cause and their rights?

Do you think Charing Cross bridge looks ugly to an engineer? While you are trying to educate or convert him, he will have built a thousand more. He is a virile and progressive man.

I for one did not miss the significance of the fight in your correspondence columns; the industry, nay, the country, is indebted to you for facilitating it, but obviously the fight did not finish there. It will go on until the public eventually decides upon the issue.

If the architects have no ammunition left and are too enfeebled to make more, or if they cannot marshal their resources, they will be defeated by the united engineers.

However hard and practical the times, I cannot believe other than that the architectural profession will emerge invigorated and rejuvenated from the fray. The truth will out. On with the battle!

C. G.

"Pay-As-You-Earn" Income Tax.

To the Editor of *The Builder*.

Sir,—I have read with interest Mr. Harland's article in the issue of November 5.

As a firm believer in the necessity of a scheme for "Pay-As-You-Earn" income tax, I realise that I am not the first person to register an objection to the complicated scheme that is at present proposed. So far as I can see, the requirements to be met are as follows:

1. We must have a "Pay-As-You-Earn" scheme, which within reasonable limits will mean that high income tax will be paid during periods of high income and that little or no income tax is payable when for seasonal or other fluctuations there is a decrease in the amount of income due to the worker.

2. The system must, in view of the shortage of skilled clerical labour, be as simple as possible. A system which will require reference to code tables each week for millions of workers throughout the country will impose a very heavy strain on clerical staffs.

3. The deduction each week should be capable of simple verification by the worker without reference to (*a*) the total of previous earnings, (*b*) the total of tax deducted, or (*c*) the deduction tables for each code.

4. The present system of allowances, such as personal allowances, earned income allowances and allowance at reduced rate on the first £165 of taxable income should, so far as is practicable, be maintained.

The scheme which has been announced by the Government gives effect to item 1. It fails to meet, however, the requirements of items 2, 3 and 4. In fact, many notable accountants have expressed the opinion that when put to the test the scheme as it stands may be impracticable. The scheme which is outlined below, besides being more simple to operate, does give effect to all these essential requirements.

Having given the subject considerable thought, it is my opinion that unless the allowances in (4) above are adjusted it is impossible to devise a scheme which will eliminate the weekly use of reference tables.

The scheme, therefore, requires for its operation an adjustment of these allowances. These adjustments result in very slight differences to the amount of tax ultimately borne by the taxpayer, *e.g.*, a higher payment of tax under my scheme will be compensated by a larger credit to post-war credit.

The essential amendments to the present income tax laws which my scheme would require are:—

(1) That the figure of £165, upon which reduced tax at 6s. 6d. is payable, be reduced to £156.

(2) That the reduced rate of 6s. 6d. be increased to 6s. 8d.

(3) That instead of at present having an allowance of one-sixth earned income, and allowing only one-tenth for present deduction and carrying forward the balance to post-war credit, the whole amount should be transferred to post-war credit.

(4) That to compensate for these increases the amount of personal allowance be increased from £80 for a single man to £110 and from £140 for a married man to £170. Other allowances would require to be adjusted accordingly. It may be desirable to vary slightly the figures quoted by me, but this would not affect in the slightest the working of the scheme. As I have said, the ultimate amount borne by the taxpayer would vary only slightly from that which would be payable under the present system. If it were considered more equitable, any difference resulting from the adoption of my scheme could be transferred to post-war credit.

The plan would then operate as follows:

(1) The employers would be notified by the Inland Revenue at the commencement of the deduction period of the amount of allowances (*i.e.*, personal, dependants, life assurance, etc.) applicable to each of its employees for the year. This figure would then be divided by 52.

(2) This allowance figure would remain constant throughout the year and could therefore be filled in on the wages sheets before the pay-day.

(3) The entries necessary in the wages book will be:—

(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
Gross Wages.	I. T. Allowances.	Taxable Income.	Income Tax.	Net Wages.
		(a—b)		(a—d)

(4) Calculation of tax will then be according to this simple formula:

(*a*) Where the amount of taxable income exceeds £3, deduct £1 from the amount and divide by 2.

(*b*) Where the amount of taxable income is £3 or less, divide the amount by 3.

The following examples will show the simplicity of the scheme:—

Gross Wages.	I. T. Allowances.	Taxable Income.	Income Tax.
£ s. d.	£ s. d.	£ s. d.	£ s. d.
8 6 0	3 3 0	5 3 0	2 1 6
4 3 0	1 18 2	2 4 10	14 11
7 9 2	4 4 2	3 5 0	1 2 6
8 7 4	3 5 8	5 1 8	2 0 10
1 1 11	2 0 0	—	—

Taking the first item, for example, it will be seen that the employee is paying 6s. 8d. in the £1 on the first £156 p.a. (*i.e.*, £3 per week) and 10s. in the £1 on the balance, or (£5 3s. − £1) ÷ 2.

I am of the opinion that a scheme such as this is essential for the building industry. There is no reason, however, why the benefits of such a scheme should not apply to all industries. Besides having the advantage of being easily comprehensible to the average worker, the scheme would result in the saving of many million man-hours per annum.

John C. H. McCartney.

Kingsbury, N.W.9.

District Heating: The Bristol Scheme.

To the Editor of *The Builder*.

Sir,—The article on the above subject in your issue for November 12 is of great interest. Will the system, if installed, lead to the widespread infestation of cockroaches over the district supplied? If not, how is it proposed to prevent the spread of these pests?

A. J. Lambert,

14, College-rd., Harrow, Middlesex.

***In reply to the above letter, Messrs. Arthur Scull and Son, Ltd., the authors of the scheme referred to, write:—

"As far as we know there is no danger of widespread infestation by cockroaches over the district supplied by the heat distribution system. We were aware from the beginning that vermin and insects may breed in the warm spaces of long-distance heating systems. Provision, however, is made by forming self-contained spaces in the ductwork, and by using, if necessary, chemicals against such nuisances."

UNDERGROUND STORAGE

R.E.s' CONSTRUCTIONAL FEAT.

[From Our Special Correspondent.]

An interesting technical job has been carried out in the Southern Command by the Royal Engineers in forming storage areas in certain disused quarries. These quarries were deep underground, building stone having been hewn from them by various tunnels and shafts communicating with the surface. Curiously enough, the last time I visited these quarries was fifty years ago, when, as an architectural pupil in the late T. B. Silcock's office, I helped to survey and compute the year's output of stone.

The scheme has been to adapt the cavities left by the quarrymen as complete self-contained depôts, including underground power-houses, offices and barracks for use in emergency. As carried out the scheme was based on a survey undertaken by the Royal Engineers under the direction of Major Minnis, R.E.

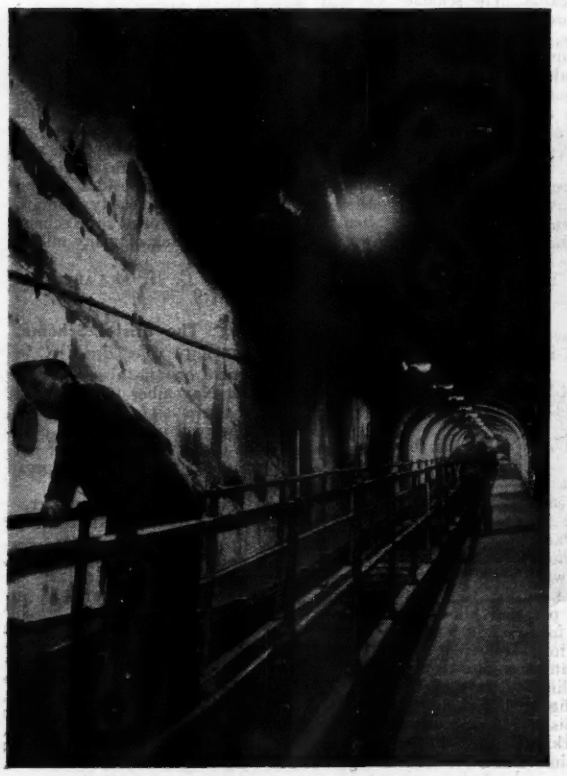
The first problem with which the Engineers were faced was the extraction of enormous quantities of rock debris which was carried out by the use of conveyors, trucks, etc. Once the cavities had been cleared it became necessary to strengthen the columns with concrete and steel reinforcement (a process which became known as "corsetting"), and also to put up additional columns and to strengthen the roofs wherever necessary. Further, a large amount of rock-cutting had to be carried out in order to construct the necessary railway sidings and haulage ways. This was done by means of both electrically operated and compressed air operated tools, and included the use of coal-cutting machinery specially adapted for the purpose.

The lighting and the operation of various forms of transport and other plant requires a secure electricity supply, and so, in addition to having alternative connection to the grid, each depôt also has its own underground generating plant for use in case the grid supplies break down. This plant is installed in power-houses underground. The transport is a particularly important problem, since the rapid intake and output of stores is of prime importance. In one depôt there is direct railway communication to the main line, special Diesel standard gauge locos being operated by the Royal Engineers, with their own underground repair shop.

In another case there is a mile-long tunnel connecting the depôt with the railway, through which run conveyor belts electrically operated, with a "creeper" at the end, electrically operated to convey trucks from the tunnel to the siding. There are also surface loading platforms for lorry transport, which give access underground by conveyor belts in slope shafts, and in one case by electric lifts. From the underground platforms and the surface loading platforms stores, generally speaking, travel in one of two ways—the bulk of them by electrically driven conveyor belts, of which there are about 14 miles length in the depôts; and the heavier types, which the belts cannot take, by trucks running on endless ropeways and, in some cases, drawn by electric locomotives. In one case an aerial ropeway gives an additional means of communication from a surface loading platform to a railway siding. A system of remote control enables the elaborate conveyor belt systems to be operated each from a central point in a depôt.

Water-borne sewage systems have been installed for underground sanitation, the sewage being pumped to the surface by ejectors operated by compressed air, and thus finding its way to sewage systems on the surface. Since the air underground is cold and humid, it was necessary for the storage of some types of stores, and also for the underground offices and barracks, to instal a system of air conditioning. Except for specialist departments, such as air conditioning, where the advice of consultants has been obtained, the planning and design of the depôts has been carried out entirely by the Royal Engineers. This includes surface barracks and accommodation, which have been largely built in stone to match the local architecture, in which they have been most successful.

The work, except again for certain specialist jobs, has not been carried out by contractors, but by directly employed labour, working under the supervision of the Royal Engineers. The labour force was drawn from all over England, and it comprised men of many categories—shipbuilders, steel workers, miners, agricultural labourers, etc., and also a number who had never yet secured work of any kind since leaving school. The men on first arrival were classified as quarry labourers and given a minimum rate of pay. Men were then chosen for learning different classes of work, such as timbering in excavations, roof supporting, concrete work, panelling driving machinery, storemen, clerks, etc. In such cases they were placed on probation for a week, and if they showed promise were graded up and paid a plus rate, suitable to the work they were doing. The most outstanding men were selected as gangers and foremen. Payment by results has been adopted with advantage for the comparatively small proportion of work which was adapted to that method.



Above is a view of storage bays for shells in the completed section of the underground ammunition depot. Work was started on the depot in 1936 and is now nearing completion.

On the left is a view of a sloping shaft leading from the surface. It is 400 ft. long, and runs right into the underground town.

AN UNDERGROUND STORE IN THE SOUTHERN COMMAND.

THE TOWN PLANNING INSTITUTE

PRESIDENTIAL ADDRESS.

In his presidential address to this Institute, delivered on November 11, Mr. W. Dobson Chapman made the point that the absence of any definite legislation or declaration of policy by the Central Authority on some particular issue, was no excuse for neglect of duty on the part of the local authorities. Local authorities must always remember that they were organs of local government, not local organs of a Central State Dictatorship, and to justify their continued existence they must accept, as indeed most of them did, the responsibilities which their function entailed, and display the initiative which would guide the Central Government in providing legislation to meet their needs. "This does not imply," added the speaker, "that I regard planning as a purely local activity. On the contrary, the recent enlargements in the scope and concept of planning are all to the good, since the consideration of planning problems on a proper national and regional basis has long been overdue, but such a concept of planning can only be of use if it is based on an adequate understanding of local needs."

Turning to a consideration of the broader issues implicit in any discussion of the ways and means of planning, the President said that it was quite possible for a country to be outwardly democratic, and yet for the individual, and even the large minority, to be utterly helpless and impotent because all the channels whereby public opinion might express itself were directly or indirectly under the control of the Central Authority.

Planning from the centre would inevitably lead to a growing concentration of power. The planners at the various stages would be appointed from above and for approval or disapproval would automatically look inwards to the centre and not to the mass of the people for whom they were supposed to be planning, and who would have to bear the brunt of any blunders they might make. We must therefore be extremely chary of all suggestions purporting to bring about so-called reforms in local government. The present system creaked painfully at times, and was indeed far from perfect, but it was his considered personal opinion that under carefully defined and limited control by the Central Authority, operating through its Regional Officers, decentralised planning authorities, composed of existing or only slightly modified units of local governments, could produce all that we desired, given good will and the proper spirit of co-operation.

"The main problem is, of course, to secure proper co-ordination between the planning proposals of the various local bodies. Where national policy is concerned that, naturally, will be the work of the Regional Planning Officers, but following this, there must be proper co-ordination of the more detailed proposals within each region, and this is where the County Councils can perform a most useful service by fulfilling this obvious need.

"Planning problems are so diverse in character and cover such a range of needs that it is not possible to devise any single local government unit which would be suitable for dealing with all the problems involved. For certain problems a single existing unit may be able to supply an adequate answer, for others a group of two or three authorities may be able to provide a solution; whilst yet other problems may require to be considered by very much larger groups. In short, a very elastic sort of system is necessary which can adapt itself to local requirements, and it is also very obvious that the definition of those local requirements should be in the hands of the people of the particular area under review. Once those requirements have been determined, a plan can be prepared, and it is this plan which should dictate the appropriate groupings for the handling of each specific problem of realisation, whilst an impartial, democratically elected, outside authority (such as a County Council) should act as co-ordinator of the work undertaken by the various permutations and combinations of the local authorities.

The Planning "Set-up."

"As I see it, then, the planning 'set-up' should be on the following lines :—

"First : For National and Inter-Regional problems—the Ministry of Town and Country Planning, acting through its Regional Officers.

"Second : For Regional problems—Joint Committees and Joint Boards co-ordinated by the County Councils. Under this heading, I am, of course, referring to natural planning regions which should not be confused with the much larger and somewhat arbitrary areas, defined as "regions" for the purpose of decentralising administration from London.

"And last : For local problems—the individual local authorities co-ordinated by the Regional Planning Committees and the special purpose Joint Boards."

What of the ends of planning? Planning, in the sense we had come to understand it, was so bound up with the general policy of social reconstruction that some mention should be made of some of the more obvious trends in national social development. It was, or should be, now agreed that our main economic policy must be one of full employment and a minimum standard of living for all, rather than one of increasing the total wealth of the country as a whole. Underlying all the various sociological preoccupations there was yet another idea which was growing in its own right and informing all the other activities—the gradual elevation of the idea of service—the shifting of the emphasis from rights to duties and the broadening of the conception of local government in order to enable as many citizens as possible to take an active part in serving the community. Akin to that desire to establish a healthy community existence there was also a parallel regrowth of the sense of vocation in work, and a growing revulsion against the uncreative outlook on life which had been all too common in the recent past, and which still persisted in many places. In material matters the emphasis had shifted from expansion to stabilisation, whilst non-material issues were being given increasingly greater consideration.

Social Changes and Planning.

"It requires little imagination to see that these social changes will have far-reaching repercussions on planning, and there is little doubt that community building in the fullest meaning of the term should be our main preoccupation in the coming years. The physical replanning and rebuilding of Britain should indeed be the main theme of our general reconstruction programme, and it should be carried forward by a natural effort comparable to that now being focused on the destruction of our enemies. Such a direction of effort on this main theme would automatically touch upon all the other broad issues of reconstruction which have been raised—economic stability, family life, education and service.

"All this means that we must say good-bye to the hopelessly inadequate devices of negative planning which, so far, have been the only stock-in-trade of the Statutory planner, and it also means a widening of the concept of positive planning in the spheres where such planning has been attempted under the Housing and Slum Clearance Acts. The present aim of providing a minimum standard of sanitary living space for everyone is indeed a very necessary objective, but it is also a very limited one. The provision of houses and a few such compulsory facilities as schools is no satisfactory method of creating a community in the fullest sense of the term. Such a community requires assembly halls, hospitals, welfare centres, recreational and cultural centres, and so on, to be planned as integral parts of the community structure, and ways and means must be devised of satisfying these requirements not only in areas developed by municipal enterprise, but also in the estate development schemes of the private entrepreneur.

"The housing standards themselves should be made more flexible, so that they can be adjusted to the needs of a given locality, and the plan for each neighbourhood should provide for the co-ordination of the work of all the various agencies connected with building enterprise, and the provision of public services so that all can operate to the end of creating a satisfactory whole. The appalling waste of land encouraged by the loose zoning which has hitherto been necessary to avoid excessive compensation must be stopped, and, by the contraction of development zones, future growth must be directed on more desirable and, of necessity, more positive lines. To achieve this end, it is again obvious that the layout of communities must be tackled in a much more calculated manner, and that there must also be some form of control of industrial location, on a national scale, as recommended by the Barlow Report, in order to secure the advantages of reasonable size in our urban settlements and the benefits of a balanced industrial and social structure."

DISCUSSION.

Sir Peirson Frank said that the President, in his address, had spoken of the Restriction of Ribbon Development Act (1935) and the Trunk Roads Act, saying that these landmarks in planning development were not associated with any national crisis, unless they were to be regarded as national crises in their own right. The Trunk Road Act had had but little time before the war to show results, but he (Sir Peirson Frank) sitting on a little panel dealing with post-war roads, had seen particulars of the progress made in connection with trunk roads, and really the amount of work done was considerable. Had we not, during this last three or four years, devoted so much to war he was sure we should have seen a very great difference, something practical and useful from the passing of that Act. Perhaps the other one had not operated quite as intended, but its intention had been good. The President had referred to the fact that the planning should not be from the centre, that in his opinion the control of the central authority should be carefully defined and limited; and the present audience would agree with that. Lord Snell, speaking in a recent debate in the House of Lords, had said that the Government accepted national planning without reservations. Consequently it was to be hoped that we should be seeing in due course—and shortly it was to be hoped—that central organisation of which those who had to prepare local or regional planning schemes felt the need.

The President had (continued the speaker) summed up three or four paragraphs in a sentence when he recognised that there must be co-operation between the central authority and the

local authorities, co-operation between the local authorities themselves, and co-operation between the planner, the various experts and, last but not least, co-operation between all authorities and the general public. That was true. There was one more sentence where the President spoke of co-operation between the various institutions. That was a step in the right direction; but when the President went further and, looking to the future, hoped people would say, "Well done thou good and faithful servant," it was to be feared the present generation of planners would not deserve that encomium. It had been said that mercy would be shown to the merciful, but did this generation say anything good about past development? We ought to be less critical of our forebears, certainly if we desired in the future recognition of efforts made to-day.

MR. R. L. MOON said that during the last few years this country had been very fruitful in good ideas, ideas which, if carried out at the right time, would result in a better ordered community, and, we hoped, a better world. But sometimes he thought the inspiration which came to us with regard to new ideas like planning was missed. At this time when so much effort and money were being spent in directions which were apparently necessary, the small amount of money necessary to launch the planning now that it had seized upon the imagination of quite a number of people in this and other countries should be forthcoming. It should not be held over until a more convenient time, because the problems which would face us after the war were likely to be of such a serious character as to push planning into the background, so now was the time. As the President had said, it was of vital importance that planning should be consistent with individual freedom. Dictatorial planning, although it might be efficient and produce spectacular results for a period, would lead to revolts and worse things happening. The democratic form of procedure was most difficult. One might have good ideas, but there was always somebody out to smash them, sometimes from not the best motives. Nevertheless, the dangers of attempting the dictatorial method were so great, that he thought the new Ministry of Town and Country Planning had a very great opportunity of maintaining that degree of freedom which we all desired.

Floors for Post-War Housing.

The exhibition of floors for post-war housing, on view at 84, Regent-street, London, W.1, will remain open until December 10.

Removal of Special Repair Service.

As from Monday last the S.R.S. has moved from Victoria Station House to new accommodation: Ministry of Works, Special Repair Service, 9 to 13, King William-street, London, E.C.4 (Mansion House 6201).

Building Technicians' Diary.

The 1944 pocket diary issued by the Association of Building Technicians (formerly A.A.S.T.A.) fully maintains its reputation as an attractively potted *vade mecum* of building information and data. Price 3s. 9d., post free, it is issued from 5, Ashley-place, S.W.1.

The Esna Barrage, Upper Egypt.

The Egyptian Government intends shortly to invite tenders for the remodelling of the Esna Barrage across the Nile in Upper Egypt. The drawings, contract and specification are now being drawn up and can be inspected shortly at the office of the Consulting Engineers, Sir Murdoch MacDonald and Partners, 72, Victoria-street, London, S.W.1, and at the Royal Egyptian Embassy in London.

BUILDERS' "ADDITIONAL COSTS"

DISCUSSION AT CHARTERED SURVEYORS' INSTITUTION.

ON Wednesday evening, November 17, the Chartered Surveyors' Institution held a meeting in the hall of the Institution of Mechanical Engineers, Storey's-gate, S.W.1. Mr. A. W. Dayson (Chairman of the Quantity Surveyors' Committee) presided, and Mr. Horace W. Langdon addressed the meeting, giving the results of an investigation he had made into builders' additional costs, with special reference to the incidents of E.W.O., U.A. and Basic Costs of Labour and Material.

MR. LANGDON said he had from time to time during the past twelve months expressed the view that additional costs had been altogether out of proportion to basic costs for original estimates. It was impossible to quote a standard percentage figure of increase because the percentages varied not only when comparing contracts situated at opposite ends of the country, but often almost as much within any one county. Additional costs might be classified under three headings: (*a*) Additional costs of materials and wages over basic rates; (*b*) extra payment to operators; and (*c*) loss by reduction in output. As to (*a*), increased costs of materials, and wages, although the increased costs of materials over original estimate or over the basic rates was considerable, this extra cost must be kept entirely separate from the additional costs under (*b*) and (*c*). This was because, firstly, so much depended upon the reasonableness or otherwise of the basic rates. In four cases that he had investigated, the final cost of all materials had been less than the basic rates, but those were all for building only. In all other cases the increases in respect of materials varied from .04 to 71.60, the higher percentages all having reference to contracts for runways, roads and heavy engineering work. The extra payments to operatives might be divided under four heads. Imported labour, because of transport, travelling time, visits to home and fares added from .04 to .59 per cent. to the contractor's costs. The men, other than imported labour, cost from 1.88 to 13.55 per cent. for transport by 'buses and from .11 per cent. to 4.50 per cent. for fares, while travelling time cost from .02 per cent. to 6.35 per cent. Designated labour cost from .01 per cent. to 6.90 per cent. Guaranteed time for all employees cost from .01 per cent. to 2.98 per cent., excess overtime cost from .43 per cent. to 4.43 per cent., trade union levy cost from .02 to .44 per cent., and holidays with pay cost from .03 per cent. to .60 per cent. For men living chiefly on the site welfare costs varied from .09 per cent. to 6.59 per cent., and subsistence from .35 per cent. to 10 per cent.

Coming to loss by reduction of output, the speaker said it was not only difficult but possibly dangerous to attempt to enter upon an explanation of causes of loss under this heading. There were four principal causes: (1) A lower standard of fitness and/or experience; (2) designated labour; (3) men under a week's notice; and (4) necessity for obtaining permission to discharge. As to (1), present-day conditions called for an unusually large proportion of juvenile labour and older men, and the output was naturally lower in consequence. As to (2), apart from the payment of a rate higher than usual for the class of work being done, the output of a craftsman must be lower if he was unused to the heavy class of work. As to (3), the output of men under a week's notice was reduced, and if ten or a dozen men in one particular section were under notice the output of others in the same section was reduced also. As to (4), the necessity for obtaining the consent of the Ministry before men could be discharged, this had an unsatisfactory influence on certain men and resulted in lower output. The total loss due to reduction in output accounted, he thought, for an increase of not less than 10 per cent., and Mr. Hookway, who had written to *The Builder* on this subject, put the loss due to a lowered standard of fitness and experience as 12½ per cent. Thus the increased cost of materials over basic rates, buses and train or bus fares, travelling time, designated labour, guaranteed time, unproductive overtime, increased wages over basic rates, subsistence, welfare, holidays with pay and trade union levy accounted altogether for an increase of 33.42 per cent. on costs; and, adding 10 per cent. for loss by reduction of output, there was a total per cent. increase of 43.42.

The break for tea, morning and afternoon, was not included in this figure, but it represented 1.50 per cent. of total cost.

Referring to a schedule he had prepared, the speaker continued: "As to increased cost of materials and wages, if and when it is possible to arrive at a decision as to the material to be used before the contract is signed, much of the increased cost may be avoided. As to buses and train and/or bus fares, imported labour will, in all probability, be reduced to a minimum when we return to more stable conditions; but we shall most likely be called upon to provide considerable sums for local bus hire and bus and train fares. As to travelling time, long-distance travelling time will be much reduced with reduction of imported labour, and it is possible that there will be considerable reduction in travelling time on local journeys. The travelling time remaining will probably be much as was the case before the war. As to designated labour, my table shows an increase of 1.20, because the amount of such labour has been small in the cases under review. Mr. Hookway estimates the extra percentage at 2.75. If we consider the smaller output of an untrained labourer the percentage will be higher. In all probability this item will disappear from our calculations upon a return to more normal conditions. As to guaranteed time, my table shows the very low percentage of .85, caused by exceptionally good weather. Mr. Hookway estimates an in-

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crease of 4.75. I believe the Ministry estimate the addition to be 5.00. This item will doubtless be continued and must be given full consideration. As to unproductive overtime, my table shows 2.08 increase, while Mr. Hookway estimates it at 10.00. This difference may be due to the fact that my tables include a very small amount of Sunday work. As to wages increase over basic rates, my table shows 2.07. Some contractors advocate a general rule applicable to the whole country. The present method of payment leads to many difficulties with the operatives. As to subsistence, Mr. Hookway, in an article in *The Builder* dated July 16, 1943, estimates that subsistence at 24s. 6d. per man (say, three men out of ten) represents an increase of 10 per cent. on wages obtaining in March, 1939, and 7½ per cent. on present plain time wages. Obviously everything depends on the number of hours worked and the plain time wages of the operative. Assuming a labourer working 60 hours at 1s. 6d. per hour, his plain time wages would amount to £4 10s., and 24s. 6d. per week represents approximately 25.45 per cent. of that amount. On the same basis, three men out of ten receiving subsistence would equal an increase on all wages of 8.48 per cent. Subsistence, when calculated against the wages of craftsmen, would naturally work out at a lower percentage than in the case of unskilled men. Two contracts in existence at the present moment are concerned with subsistence as follows: *Site No.* 1.—A station upon which 1,000 men are employed. 600 of the men are receiving subsistence moneys of 24s. 6d. per week; 300 of the men live fairly close to the site; 100 are conveyed from and to their homes each day in buses. 400 of the men receive £5 7s. 6d. per week; 600 of the men receive £4 10s. per week; the total wage bill, exclusive of additional payments, is £4,700. 600 men at 24s. 6d. = £735, which is 15.06 per cent. of the plain time wages account. *Site No.* 2.—800 men are employed on this station. 600 of the men are housed in a hostel provided by the Ministry 17 miles from the site. These 600, as well as the remaining 200, are conveyed from the hostel or their homes to the site and back each day by buses. The hostel is said to cost the Ministry 24s. 6d. per person, per week. Each man contributes 5s. per week toward this cost. All these percentages would be increased if the additional costs are compared with a week where, by reason of inclement weather, only a guaranteed week is paid for. On my table, welfare, holidays with pay and trade union levy represent a total increase of 2.19 per cent. Mr. Hookway estimates the total increase at 6.25 per cent., but my experience is that 2.19 is much nearer the figure. The contractor finds a considerable difference in canteen expenditure. On some contracts there will be a loss of as much as £1,000, while on others a profit of a similar amount."

Of other causes of increased costs the speaker said that in many cases, owing to the want of proper materials, alternatives had to be found, often more expensive than the proper materials. There was the cost of maintaining clerical staffs to deal with the thousand and one forms that had to be filled in, and one very important factor towards increasing costs was that often too little thought was given to the scheme before putting the work in hand. In many cases, especially during a time of emergency, it had not been possible to give the necessary time; and public Departments had been forced to proceed with work knowing that this want of preparation would result in additional cost.

Discussion.

Mr. E. C. Harris said he did not agree with all Mr. Langdon's figures. He had himself analysed a number of fairly large contracts carried out in very rural districts; and the results of his analysis for travelling time and the like were very much higher than those of Mr. Langdon and Mr. Hookway. Location of site had a big influence on unproductive costs. Paying men while they were sitting in buses, the guaranteed week, the tea break, and all those payments made to men when they were not helping forward the work of construction—on the basis of the analysis of twenty contracts these payments increased the total cost of labour by 44 per cent. He had excluded the cost of material because that was so changeable a factor. Holidays with pay was a very simple matter to put down in a percentage; the cost to the builder was eighteenpence per week per man, and, taking the plain time average wage as £5 a week, this amounted to 1½ per cent. If the contractor included holidays with pay in his tender he would add three-quarters per cent., assuming labour and materials as 50/50. Bus and coach travel was very much greater where there was no hostel or labour camp. The labour camp took the place of coach travel, but the cost of the labour camp very nearly equalled the cost of coach travel, taking an average. The tea break was a vexed question, and the Departments rejected the claim from contractors for this. The legitimate break was ten minutes, but the men had to down tools, rub their hands, get down from the scaffold and walk across to the canteen or trolley where the tea was being served. Each drank his tea, lit a cigarette, and got back to his job, not less than half an hour being lost from practical productive work. With the men working long hours and having two breaks a day the contractor lost one hour per man per day, equalling 10 per cent. of labour costs. The direction of labour increased the cost of works; the Department sent every sort of unemployed men as building trade operatives and the contractors were forced to engage them. Administrative costs were greatly increased; on any typical wage-sheet no fewer than 42 columns for every man on the job had to be completed every week. The building industry was in an unhealthy condition, but in the post-war period it must be able to go to the public and say, "We constitute a well-organised industry; spend your money with us and we will give you value." Until the industry could do that it was not in the position to undertake post-war work.

Sergeant F. H. Chidgey said that until the contractor took some sort of equal interest in the increased costs the contractor would have little interest in getting these down.

Mr. H. J. Venning said that as to work that could be done by an accountant, many surveyors employed an accountant for clerical checking, but the work was best done by a surveyor, because the surveyor was the only man who knew the technical difficulties. It was best to employ a specialist to go round from job to job and help the site surveyors in that way; it saved the time of a man measuring on a job if he could be released from this fretful detail. As to recreation, one could distinguish between the recreational facilities a man might have at his own home and the amusement he might have to pay for. With regard to valuing buildings off the site, contractors had to lean on the Ministry or Department they were working for and collaborate with them. A recent issue of *The Builder* quoted figures given by the B.I.N.C. up to March, 1943, and these figures showed an increase of 39 per cent., but he (the speaker) suspected this did not include subsistence, whereas Mr. Langdon's figure of 42 per cent. did include it.

Mr. H. G. Assiter said it was comparatively easy to decide what was reasonably claimable as recreation. Reasonable expenses in providing amusement for the men when they were not at work included such things as a radio set, dart-board, small games sets, card-tables, and anything of a small character like that; but not expensive entertainment unless the site was a very big one with a very large number of men. With regard to employing an accountant, he (Mr. Assiter) always regarded the quantity surveyor as the technical accountant of the building industry, whose training and mental outlook were one of accountancy all the time. There was not anything in the way of accounting in such matters as were dealt with in builders' contracts that a fully trained accountant could not do. As to bus and coach hire, a contractor could not be expected to get estimates because sometimes he was limited to two or even only one coaching contractor in the district. But the contractor could be relied on not to claim more than he could help even when running a target contract. With regard to the future of the building industry, until the contractor got control of his labour we should not get a satisfactory result. Trade Unions should be encouraged not to look at things solely from the workmen's point of view; they should not only look after the men but after the welfare of the public employing the men, and see that the men gave a proper return for their money. Mr. Langdon had suggested a uniform rate of wages throughout the country, but the costs of living differed so greatly as to make this impossible. In a large town a man had to

pay twenty or twenty-five shillings a week for accommodation similar to what he could get in the country for perhaps six shillings a week. Differential rates of pay ought to work. The difficulty was that town contractors were not able to compete with country contractors on jobs in country districts.

MR. W. JAMES said that on many jobs only half the men were accommodated on the site. The other half were brought in by chars-à-bancs, and this although accommodation on the site was enough for all the men. There was no power to force men to use the accommodation provided on the site. Another point was in connection with the guaranteed week. He had found cases where men were paid bonus and at the same time were paid the guaranteed week. Another matter was as to country districts where the basic rate was low. How could you find out that the rate stated as area rate was correct? There was nowhere a record of what a man's basic rate was. After the war, building would not be in such isolated places as most aerodromes and camps were situated in; most of the work would be reconstruction in towns. He (the speaker) agreed that the builder did not seem to care what the total costs were so long as they were refunded. They should be brought into the original estimate, but you could not expect this if you were going to direct to the contractor labour over which he had no control and of which he did not know the output. If the labour was attached to a firm and directed to that firm and not to a job, the contractor would be able to estimate on a basis of which he was aware and could keep a record.

MR. L. J. NEWTON (a building contractor) said that payment by results involved a separate surveying staff on the site. His firm had surveyors measuring and allocating bonus schemes every week, and did not know to what extent these things would continue after the war. It must be borne in mind that during the last four years most of the contracts had been with Government Departments, and the pricing had been largely in the hands of the contractor. He got his bill of preliminaries, which in some measure was vaguely worded. Until now contractors had endeavoured to estimate a sum which would cover the cost of items like welfare, the guaranteed week, travelling time, etc., and they were having difficulties in cases where, for example, they had stated £1,000 in a contract started two years ago where the cost was now £5,000 or £6,000. As to the post-war effort, for whom would the work be carried out? Private building must come back again, but when the contractor had his costs increased by nigh on 40 per cent. unproductive labour it would be difficult to persuade his customers that this was a necessary evil.

MR. W. J. GEORGE said he had arrived in England a few weeks ago to find everybody complaining of the building industry. He heard on all sides that the output of labour was not what it should be. Awareness of something to be corrected was a long step in the right direction, and, individually and collectively, all must make their contribution towards reconditioning the building industry. Another point was as to the quantity surveyor and accountancy. His (the speaker's) experience in Palestine had convinced him that not only was the quantity surveyor an accountant but quite competent to tackle many questions outside the building industry.

MR. LANGDON replied to the debate, and a vote of thanks was passed to him.

TIES FOR CAVITY WALLS

U.S. BUREAU OF STANDARDS REPORT.

The following conclusions are drawn on the strength and resistance to corrosion of ties for cavity walls in a report prepared for the U.S. National Bureau of Standards by Mr. Cyrus C. Fishburn, which we record through the courtesy of the U.S. Bureau of War Information:—

TIES for cavity-wall construction were tested in tension and compression when embedded at the ends in brick-mortar assemblies spaced to give a 2-in. cavity. Most of the ties were made of 6-, 8- or 10-gauge concrete reinforcing steel wire, cut either from welded fabric or from coiled lengths. Other ties that were tested were Copperweld copper-coated Z-shaped steel ties, corrugated and galvanised steel strips, and I-shaped ties cut from sheets of cement-asbestos board. Three kinds of mortar were used, designated as *H*, *M* and *L*, and mixed in the respective volume proportions of 1 : 0.25 : 3, 1 : 1 : 6, and 1 : 3 : 12.

Some of the ties coated with neat cement, mortar *M*, Eternium brand coal-tar paint, copper, or zinc, were exposed outdoors, and others to artificial indoor weathering.

The following pertains to the structural strength of the specimens and to the corrosive effects on the plain and coated steel ties produced by exposure indoors to warm humid air and to outdoor weathering :—

1. COMPRESSIVE STRENGTH.—(*a*) Brick-mortar assemblies containing ties of 6-, 8- and 10-gauge steel wire embedded in mortars *H* and *M* failed by buckling of the ties; when the ties were embedded in mortar *L* the specimens failed by crushing of the mortar against the ends of the ties.

(*b*) Specimens built with mortar *H* that failed by buckling of the ties were nearly 10 per cent. stronger than similar specimens built with mortar *M*.

(*c*) Increase in the length of ear on Z-shaped ties, from 2 in. to 3 or 4 in., resulted in a slight but consistent increase in the strength of the specimens.

(*d*) Specimens containing a square tie cut from welded wire fabric of 6-in. mesh were stronger than those containing a rectangular tie 4 in. wide (of the same kind and diameter of steel wire) bent from one piece with butted, not welded, ends.

(*e*) I-shaped cement-asbestos ties with stems 1½ by ¼ in. in cross section were stronger than two-stem ties of No. 6 gauge welded steel-wire fabric, 6-in. mesh.

2. TENSILE STRENGTH.—(*a*) Z-shaped ties of 6- and 10-gauge steel wire embedded in mortar *H* pulled out of the mortar beds; ties of 8-gauge wire failed in tension.

(*b*) Most of the Z-shaped ties of the 6-, 8- and 10-gauge steel wire, embedded in mortar *M*, pulled out of the mortar beds, some of the 8-gauge ties with ears 3 and 4 in. long failed in tension.

(*c*) Most of the specimens containing Z-shaped ties of 6- and 8-in. gauge steel wire, embedded in mortar *L* failed by crushing of the mortar, with subsequent splitting of the brick-mortar assembly; ties of 10-gauge wire pulled out of the mortar beds.

3. CORROSION OF THE TIES.—(*a*) Light rust was observed on plain, uncoated steel wire during the first week of exposure, and these ties were severely rusted in about 30 days.

(*b*) Coatings of neat Portland cement and mortar were ineffective and cracked away from steel ties that had rusted.

(*c*) Coatings of Eternium coal-tar paint prevented the corrosion of steel ties except where the coatings had been nicked with the mason's trowel during construction of the specimens.

(*d*) Zinc and copper coatings were effective in preventing the corrosion of steel ties.

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OBITUARY

T. Taliesin Rees, J.P., F.R.I.B.A.

We regret to record the death, at the age of 78, of Mr. Thomas Taliesin Rees, of the firm of Rees and Holt, of Liverpool. In partnership with Richard Holt he designed many important buildings throughout the country, and as architect to Birkenhead Education Committee Mr. Rees was responsible for designing the majority of the Council's elementary and secondary schools. The last for which he was architect was the Girls' Secondary School, Park-road South, opened in 1928. Mr. Rees, who was F.R.I.B.A., F.S.I. and M.T.P.I., was also consulting architect to the King Edward VII Memorial Association Hospitals, North Wales. He had sat on the Birkenhead Bench of Magistrates since 1918.

John Clark, L.R.I.B.A.

The death, at the age of 96, has taken place of Mr. John Thomas Ince Clark, of Nottingham. For 70 years he was connected with the firm of Evans, Clark and Woollatt, in which he was for 24 years a partner. He was the oldest member of the Notts, Derbyshire and Lincs Architectural Society. His speciality was design in connection with malting and brewery premises, and he had designed work all over England and in Scotland, Ireland, and the Colonies.

C. H. Bedells, P.P.S.I.

We regret to report the death, following a severe operation, of Mr. Charles Herbert Bedells, P.P.S.I., aged 81 years. Educated at Mill Hill, he studied architecture and construction at University College, London, and at the Architectural Association. Senior partner of Lander, Bedells and Crompton, of Bedford-row, he was a past-president of the Chartered Surveyors' Institution (1929), and of the College of Estate Management. He had been a member of the Building Industries National Council since 1933.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 2nd APRIL, 1943

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	2/0	1/7	Clevedon	2/0	1/7	Isle of Thanet	1/10	1/5½	Saxmundham	1/8½	1/4½
Aberdare	2/0	1/7	Clitheroe	2/0	1/7	Isle of Wight	1/9½	1/5	Scarborough	1/11½	1/6½
Abergavenny	2/0	1/7	Cobham (Surrey)	1/11	1/6½	Keighley	2/0	1/7	Scunthorpe	2/0	1/7
Abingdon	1/10½	1/5½	Colchester	1/11½	1/6½	Kenilworth	2/0	1/7	Selby	2/0	1/7
Accrington	2/0	1/7	Colwyn Bay	1/11	1/6½	*Kettering M.B.	2/0	1/7	Sevenoaks	1/10½	1/5½
Aldeburgh	1/8½	1/4½	Congleton	1/11½	1/6½	Kidderminster M.B.	1/11½	1/6½	Sheerness	1/10	1/5½
Aldershot	1/10½	1/5½	Coventry C.B.	2/0	1/7	King's Lynn	1/10	1/5½	Sheffield	2/0	1/7
Alfreton U.D.	2/0	1/7	Cranbrook	1/10	1/5½	Kirkham	2/0	1/7	Shipley	2/0	1/7
Alnwick	1/11½	1/6½	Cranleigh	1/10	1/5½	Knowle	1/11½	1/6½	Shoeburyness	1/11½	1/6½
Altrincham	2/0	1/7	Crawley	1/10	1/5½	Lancaster	2/0	1/7	Shoreham	1/11	1/6½
Amble	1/11½	1/6½	Crewe	1/11½	1/6½	Leamington M.B.	2/0	1/7	Shrewsbury M.B.	1/11½	1/6½
Amersham	1/10½	1/5½	Cromer	1/9	1/4½	Leatherhead	1/11	1/6½	Sittingbourne	1/10	1/5½
Ammanford	2/0	1/7	Crowborough	1/10	1/5½	Leeds	2/0	1/7	Skegness U.D.	1/11	1/6½
Andover	1/10	1/5½	Cuckfield	1/10	1/5½	Leicester C.B.	2/0	1/7	Sleaford U.D.	1/10½	1/5½
Ardingly	1/10	1/5½	Darlington	2/0	1/7	Leighton Buzzard	1/9	1/4½	Slough	1/11	1/6½
Arundel	1/10	1/5½	Darwen	2/0	1/7	Letchworth	1/11	1/6½	Smethwick	†2/0	†1/7
Ascot	1/10	1/5½	Daventry M.B.	1/10½	1/5½	Lewes	1/10	1/5½	Southampton	1/11½	1/6½
Ashby-de-la-Zouch U.D.	2/0	1/7	Denbigh Town	1/11	1/6½	Lichfield M.B.	1/11	1/6½	Southend-on-Sea	1/11½	1/6½
Ashford (Kent)	1/10	1/5½	Derby C.B.	2/0	1/7	Lincoln C.B.	2/0	1/7	Southport	2/0	1/7
Ashford (Middlesex)	2/0	1/7	Devizes	1/9	1/4½	Littlehampton	1/10	1/5½	South Shields	2/0	1/7
Ashington	1/11½	1/6½	Dewsbury	2/0	1/7	*Liverpool	‡§2/1	¶	Spalding	1/10	1/5½
Ashtead	2/0	1/7	Didcot	1/10	1/5½	Llandudno	1/11	1/6½	Stafford M.B.	1/11½	1/6½
Ashton-under-Lyne	1/10	1/5½	Diss	1/8½	1/4½	Llanelly	2/0	1/7	Staines	1/11	1/6½
Aylesbury	1/9	1/4½	Doncaster	2/0	1/7	London—			Stamford M.B.	1/11	1/6½
Aylsham			Dorchester	1/9½	1/5	12m. radius	2/1½	1/8	Stevenage	1/11	1/6½
Bagshot	1/10	1/5½	Dorking	1/10½	1/5½	12-15m. radius	2/1	1/7½	Stockport	2/0	1/7
Banbury	1/10	1/5½	Dover	1/10	1/5½	Long Eaton U.D.	2/0	1/7	Stockton-on-Tees	2/0	1/7
Barnsley	2/0	1/7	Dovercourt	1/10	1/5½	Longton	2/0	1/7	Stoke-on-Trent C.B.	2/0	1/7
Barnstaple	1/10	1/5½	Driffield	1/10½	1/5½	Loughborough M.B.	2/0	1/7	Stourbridge M.B.	2/0	1/7
Barrow-in-Furness	2/0	1/7	Droitwich M.B.	1/11½	1/6½	Louth M.B.	1/10½	1/5½	Stourport U.D.	1/11½	1/6½
Barry	2/0	1/7	Dudley M.B.	2/0	1/7	Lowestoft	1/10	1/5½	Stowmarket	1/9	1/4½
Basingstoke	1/10	1/5½	Dunstable	1/10½	1/5½	Luton	1/11½	1/6½	Stratford-on-Avon M.B.	1/11	1/6½
Bath	1/11½	1/6½	Durham City	2/0	1/7	Macclesfield	1/11½	1/6½	Stroud	1/11	1/6½
Batley	2/0	1/7	Eastbourne	1/11	1/6½	Maidenhead	1/11	1/6½	Sunderland	2/0	1/7
Beaconsfield	1/10½	1/5½	E. Glam. (Mon. Val.)	2/0	1/7	Maidstone	1/10½	1/5½	Sutton Coldfield M.B.	2/0	1/7
Beccles	1/8½	1/4½	East Grinstead	1/10	1/5½	Malvern U.D.	1/10½	1/5½	Swaffham	1/8½	1/4½
Bedford	1/11½	1/6½	Edenbridge	1/10	1/5½	Manchester	2/0	1/7	Swanage	1/10	1/5½
Berkhamsted	1/10	1/5½	Ely	1/9	1/4½	Manningtree	1/9	1/4½	Swansea	2/0	1/7
Berwick	1/11½	1/6½	Epping	2/0	1/7	Mansfield M.B.	2/0	1/7	Swindon	1/10½	1/5½
Beverley	2/0	1/7	Exeter	1/11½	1/6½	March	1/9	1/4½	Tamworth M.B.	1/11½	1/6½
Bexhill	1/10½	1/5½	Exmouth	1/10½	1/5½	Margate	1/10	1/5½	Taunton	1/10½	1/5½
Bideford	1/10	1/5½	Fakenham	1/9	1/4½	Market Harborough	1/11	1/6½	Tenterden	1/10	1/5½
Biggleswade	1/10	1/5½	Falmouth	1/10½	1/5½	Matlock U.D.	1/10½	1/5½	Thames Haven	2/0	1/7
Billericay	1/9½	1/5	Fareham	1/11	1/6½	Melton Constable	1/8½	1/4½	Thetford	1/9½	1/5
Birchington	1/10	1/5½	Faversham	1/10	1/5½	Melton Mowbray	1/11	1/6½	Thorpe Bay	1/11½	1/6½
*Birkenhead	‡§2/1	¶	Felixstowe	1/11	1/6½	Merthyr	2/0	1/7	Todmorden	2/0	1/7
Birmingham C.B.	†2/0	†1/7	Filey	1/10½	1/5½	Middlesbrough	2/0	1/7	Tonbridge	1/10½	1/5½
Bishop Auckland	2/0	1/7	Fleetwood	2/0	1/7	Middleton	2/0	1/7	Torquay	1/11½	1/6½
Bishop's Stortford	1/11	1/6½	Flint	2/0	1/7	Middlewich	1/11½	1/6½	Totnes	1/10	1/5½
Blackburn	2/0	1/7	Folkestone	1/10	1/5½	Milford Haven	1/10½	1/5½	Trowbridge	1/9	1/4½
Blackpool	2/0	1/7	Frinton-on-Sea	1/10	1/5½	Morecambe	2/0	1/7	Truro	1/9½	1/5
Blyth	2/0	1/7	Frome	1/9	1/4½	Morley	2/0	1/7	Tunbridge Wells	1/10½	1/5½
Bognor Regis	1/10	1/5½	Gainsborough U.D.	1/11	1/6½	Mundesley	1/9	1/4½	Uppingham (Salop)	1/11½	1/6½
Bolton	2/0	1/7	Gateshead	2/0	1/7	Nantwich	1/11½	1/6½	Uttoxeter U.D.	1/10½	1/5½
Bournemouth	1/11	1/6½	Gillingham (Kent)	1/11	1/6½	Nelson	2/0	1/7	Wakefield	2/0	1/7
Bracknell	1/10	1/5½	Glossop	2/0	1/7	Newark-on-Trent	1/11½	1/6½	Walsall C.B.	2/0	1/7
Bradford	2/0	1/7	Gloucester	1/11½	1/6½	Newbury	1/10	1/5½	Walsden	2/0	1/7
Bradford-on-Avon	1/9	1/4½	Godalming	1/10	1/5½	Newcastle-on-Tyne	2/0	1/7	Walton-on-Naze	1/10	1/5½
Braintree	1/10	1/5½	Goole	2/0	1/7	Newcastle-u.-Lyme	2/0	1/7	Ware	1/11½	1/6½
Brentwood	1/11½	1/6½	Gosport	1/11½	1/6½	New Forest	1/10	1/5½	Warminster	1/9	1/4½
Bridgwater	1/10½	1/5½	Grantham M.B.	1/11	1/6½	Newmarket	1/10	1/5½	Warrington	2/0	1/7
Bridlington	1/11½	1/6½	Gravesend	1/11½	1/6½	Newport, Mon.	2/0	1/7	Warwick M.B.	2/0	1/7
Brighouse	2/0	1/7	Great Yarmouth	1/10	1/5½	Newport Pagnell	1/10	1/5½	Wellington R.D.	1/11½	1/6½
Brighton	1/11	1/6½	Grimsby	2/0	1/7	Northampton C.B.	2/0	1/7	Welwyn	1/11	1/6½
Bristol	2/0	1/7	Guildford	1/10	1/5½	Norwich	2/0	1/7	Welwyn Gar. City	2/0	1/7
Broadstairs	1/10	1/5½	Guisborough	1/10½	1/5½	Nottingham	2/0	1/7	Wells (Norfolk)	1/8½	1/4½
Bromsgrove U.D.	1/11½	1/6½	Halifax	2/0	1/7	Nuneaton	2/0	1/7	West Bromwich C.B.	2/0	1/7
Buckley	2/0	1/7	Hanley	2/0	1/7	Oakham U.D.	1/10½	1/5½	Westcliff-on-Sea	1/11½	1/6½
Bungay	1/8	1/4	Harpenden	1/11	1/6½	Oldham	2/0	1/7	Weston-super-Mare	1/11	1/6½
Burnham-on-Crouch	1/8½	1/4½	Harrogate	2/0	1/7	Ormskirk	2/0	1/7	Weybridge	1/11	1/6½
Burnley	2/0	1/7	Hartlepools	2/0	1/7	Oxford	1/11½	1/6½	Weymouth	1/10	1/5½
Burslem	2/0	1/7	Harwich	1/10	1/5½	Oxted	1/10½	1/5½	Whitby	1/11	1/6½
Burton-on-Trent C.B.	2/0	1/7	Haslemere	1/10	1/5½	Paignton	1/11½	1/6½	Whitstable	1/10	1/5½
Bury	2/0	1/7	Hastings	1/10	1/5½	Peterborough (Borough)	1/11½	1/6½	Widnes	2/0	1/7
Bury St. Edmunds	1/9½	1/5	Hatfield	1/11½	1/6½	Plymouth	2/0	1/7	Wigan	2/0	1/7
Buxton	1/11½	1/6½	Haywards Heath	1/10	1/5½	Pontefract	2/0	1/7	Wigton	1/10½	1/5½
Byfleet	1/10½	1/5½	Hednesford	1/11½	1/6½	Pontypridd	2/0	1/7	Willington	2/0	1/7
Cambridge	2/0	1/7	Hemel Hempstead	1/11	1/6½	Port Talbot	2/0	1/7	Wilmslow	2/0	1/7
Canterbury	1/10	1/5½	Henley-on-Thames	1/10	1/5½	Portsmouth	1/11½	1/6½	Winchester	1/10½	1/5½
Cardiff	2/0	1/7	Hereford	1/10	1/5½	Preston	2/0	1/7	Windermere	1/10½	1/5½
Carlisle	2/0	1/7	Herne Bay	1/10	1/5½	Pulborough	1/10	1/5½	Windsor	1/11	1/6½
Carnforth	2/0	1/7	Hertford	1/11½	1/6½	Ramsgate	1/10	1/5½	Wisbech	1/9½	1/5
Castleford	2/0	1/7	Heybam	2/0	1/7	Reading	1/11½	1/6½	Witham	1/10	1/5½
Caterham	2/0	1/7	Hitchin	1/11	1/6½	Redditch U.D.	1/11½	1/6½	Woking	1/10½	1/5½
Chard	1/9	1/4½	Hoddesdon	1/11½	1/6½	Redhill	1/10½	1/5½	Wokingham	1/10	1/5½
Chatham	1/11	1/6½	Holt (Norfolk)	1/8½	1/4½	Ripon	1/10½	1/5½	Wolverhampton C.B.	2/0	1/7
Chelmsford	1/11½	1/6½	Horley	1/10	1/5½	Rochdale	2/0	1/7	Woodbridge	1/9½	1/5
Cheltenham	1/11	1/6½	Horsham	1/10	1/5½	Rochester	1/11	1/6½	Worcester C.B.	1/11½	1/6½
Chepstow	1/11½	1/6½	Horwich	2/0	1/7	Rugby M.B.	2/0	1/7	Worksop	1/11½	1/6½
Chertsey	1/11	1/6½	Huddersfield	2/0	1/7	St. Albans	1/11½	1/6½	Worthing	1/10	1/5½
Chester	2/0	1/7	Hull	2/0	1/7	St. Helens	2/0	1/7	Wrexham	1/11½	1/6½
Chesterfield M.B.	2/0	1/7	Hunstanton	1/9	1/4½	St. Neots	1/9½	1/5	Wroxham	1/9½	1/5
Chichester	1/10	1/5½	Huntingdon	1/9½	1/5	Saffron Walden	1/9	1/4½	Wycombe	1/11	1/6½
Chorley	2/0	1/7	Ilfracombe	1/10	1/5½	Salisbury City	1/9½	1/5	Wymondham	1/9	1/4½
Cirencester	1/9½	1/5	Ingatestone	1/10½	1/5½	Salisbury Plain	1/11	1/6½	Yeovil	1/10½	1/5½
Clacton	1/10	1/5½	Ipswich	1/11½	1/6½	Sawbridgeworth	1/10½	1/5½	York	2/0	1/7

* An application for an increase of rates is under discussion.

† Plus 2d. per working day. ‡ Plasterers 2/1½. ¶ Tradesmen's Labourers, 1/7½. Navvies and General Labourers, 1/6½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters, Joiners and Plumbers in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 461

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works, at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery.

BRICKS, &c.

	£ s. d.
First Hard Stocks	4 13 0
Second Hard Stocks	4 6 0
Mild Stocks	3 13 0
Single Rough Stocks	3 7 0
Common Stocks	2 17 6

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job. *In addition*, there will be the Levy under (the Bricks (Charges) Order, 1942, of 3s. per 1,000.

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	56 9	63 3
Keyed	58 9	65 3
Single Bullnose	76 9	83 3
Rustics	76 9	83 3
Whites	77 3	83 3

White Midhurst Best selected (delivered London site)	£ s. d. 5 10 0
Best blue Pressed Staffs. (London Stns.)	11 12 0
Do. Bullnose (London Stns.)	12 2 0
Blue Wire Cuts (London Stns.)	10 9 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.	£ s. d.
2½ in. 10 0 0	3 in. 12 0 0

GLAZED BRICKS (London Stns.). Add 12½% to Prices.

Best White Ivory and Salt Glazed	D'ble Str'tch'rs	38 10 0
	D'ble Headers	35 10 0
Stretcher 30 0 0	One side&twoends	39 10 0
Headers 29 10 0	Twosides&one end	40 10 0
Quoins, Bullnose and 4½in. Flats 36 10 0	Splays and Squints	38 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

ADD LEVY ON BRICKS. 3/- per 1,000 except Glazed Bricks.

PARTITION SLABS.

Delivered on site London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 8	3" per yd. sup.	3 6
2½ " " ..	2 11	4" " " ..	3 10

CLINKER CONCRETE.

2" per yd. sup.	1 11	3" per yd. sup.	2 6
2½ " " ..	2 3	4" " " ..	3 6

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 8
Size 12 x 9 x 2½ " "	2 11
Size 12 x 9 x 3 " "	3 6
Size 12 x 9 x 4" " "	3 10

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 8
12" x 9" x 2½" ..	2 11
12" x 9" x 3"	3 6
12" x 9" x 4"	3 10

Per yard super d/d. Free on site, London.

Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R. .... per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cub.	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11
YORK STONE, BLUE—*Robin Hood Quality*	
Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super	5 6
6 in. rubbed two sides, ditto .. "	6 3
3 in. sawn two sides slabs (random sizes) ..... "	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) .... "	1 8½
1¼ in. to 2 in. ditto ..... "	1 4½
HARD YORK—	
Delivered at any Goods Station, London.	
Scrappled random blocks.....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft. super	5 7½
6 in. rubbed two sides, ditto .. "	6 9
4 in. sawn two sides slabs (random sizes) ..... "	3 5
3 in. ditto ditto ..... "	2 8
2 in. self-faced random flags .... per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d.

Small section cills and copings, 11s.

SAND.

Thames Ballast	11s. 6d. per yd.	delivered 2 miles radius Paddington
Pit Ballast	10s. 0d. " "	
Pit Sand	12s. 0d. " "	
Washed Sand	13s. 0d. " "	
¾ in. Shingle	10s. 6d. " "	
¾ in. Broken Brick	16s. 0d. " "	
Pan Breeze	10s. 0d. " "	

CEMENT.

Best British Portland Cement. Standard Specification, delivered London area.	£ s. d.
6 ton loads and upwards site ..... per ton	2 11 0
1 ton to 6 tons site	2 14 0
Alongside Vauxhall in 80 ton lots	2 8 6
" Ferrocrete " Rapid Hardening Cement—	
6 ton loads and upwards site	2 17 0
1 ton to 6 tons site	3 0 0
Alongside Vauxhall in 80 ton lots	2 14 6
" Aquacrete " Water Repellent, " Blue Circle " cement, 30s. per ton on ordinary " Blue Circle " prices.	
" Colorcrete " Nos. 1 and 2. Coloured rapid Hardening Portland Cement in 6 ton lots	4 11 0
" Colorcrete " not rapid hardening, according to colour, from £7 to £15 10s. per ton.	
" Snowcrete " White Portland Cement (in free paper bags)	11 5 0
Under one ton .. .. .. per cwt.	0 13 2
" 417 " Cement (Ultra Rapid Hardening) Delivered Site London Area in 6 tons lots and upwards	3 11 0
Plus packages at current prices.	
Super Cement (Waterproof), bags extra	4 1 0

NOTE.—Juke sacks charged at 35s. 6d. nett per ton (20 sacks) for quantities of or exceeding one ton.

Less than one ton 1s. 9½d. nett each.

Credit 1s. 6d. nett each when returned in good condition within two weeks.

£ s. d.	£ s. d.
Roman Cement 8 10 0	Keene's Cement, White 7 0 0
Parian Cement 7 0 0	" " Pink 6 10 0

Cementone Colours for cement according to tints per cwt. from £3 5s. 0d.

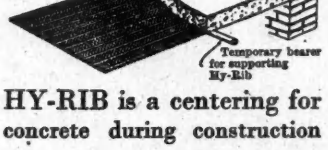
SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station.

Per 1,000 actual.	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

HY-RIB is the answer to your centering problem

Use the reinforcing steel as centering for the slabs



HY-RIB is a centering for concrete during construction

HY-RIB is a reinforcement for the structural slab

Over 11,000,000 square feet of HY-RIB combined centering and reinforcement has been used in wartime buildings

For the guidance of Constructional Staffs we provide working drawings for particular applications of Hy-Rib.

HY-RIB
COMBINED CENTERING AND REINFORCEMENT

HY-RIB SALES, 6 COLLINGHAM GARDENS EARLS COURT, S.W.5. 'PHONE: PROBISHER 8141

An advertisement of The Trussed Concrete Steel Co. Ltd.
4-526A

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink ..	4 2 6	Sirapite, Coarse	4 8 6
" White	4 10 0	" Finish	4 14 6
Pioneer	5 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue		Grey Stone Lime	3 1 0
Lias Lime	3 7 6	Chalk Lime	3 1 0
Granite Chippings	1 15 0	Hair per cwt. ..	3 15 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons ..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 18 0
Ditto hand-made ditto	7 2 0
Ornamental ditto	7 8 6
Hip and valley tiles (Hand-made	14 6
(per dozen) Machine-made	13 10

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality	Foot cube. s. d.		s. d.
Dry English Wainscot Billets	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak.....			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue.....	per cwt.		5 0 0
Liquid glue.....	per gallon		1 2 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes 2 in. by 3 in. to 4 in. by 11 in.	47 0 0	58 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	71 0 0

	Per square. s. d.
1 in. plain edge flooring	56 3
1¼ in. ditto	70 6
1 in. tongued and grooved	56 3
1¼ in. ditto	70 6

MATCHING	Per square. s. d.
⅜ in.	40 0
½ in.	45 3
1 in.	59 0

PLUMBERS' BRASS WORK.

Delivered in London.

M.O.H.

S.D. BIBCOCKS CRUTCH HEAD, FOR IRON

½ in.	¾ in.
33/-	51/- per doz.

TOILET BIB COCKS FOR IRON.

½ in.	¾ in.
60/-	72/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
33/-	48/-	86/-	209/-	281/-	436/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
45/-	77/6	123/-	240/-	372/-	624/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
5/6	6/8	11/-	24/-	36/-	56/- per doz.

HEAVY CROYDON BALL VALVES.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
72/-	115/-	144/-	288/-	384/- per doz.

CAPS AND SCREWS.

1½ in.	1¾ in.	2 in.	3 in.	3½ in.	4 in.
14/-	18/6	25/9	45/3	64/9	71/6 per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/9	13/6	25/-	37/-	46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼×6 lbs.	1½×6 lbs.	2×7 lbs.	3×7 lbs.
Lead P.	26/-	34/-	55/-	92/- per doz.
Lead S.	34/-	41/-	67/-	115/- per doz.

SOLDER.—Plumbers', 1/6. Tinmen's, 1/11. Blow pipe, 2/3 per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

See Note at top of preceding page.

METALS.

JOISTS, GIRDERS, &c., to LONDON STATION				PER TON—
R.S. Joists, cut and fitted	£24	0	0	
Plain Compound Girders	26	10	0	
Stanchions	29	0	0	
In "Roof" Work	35	0	0	

NOTE.—These prices are for standard pieces, and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£	s.	d.	Diameter.	£	s.	d.
¼ in.	23	5	0	½ in.	21	15	0
⅜ in.	22	15	0	⅝ in. to 2½ in.	21	5	0
½ in.	22	5	0				

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½% gross. 10/17

	Tubes. ½"/6" %	Tubulars, and ½"/6" %	19/24" %	Flanges. ½"/2" %	2½"/6" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv. lightweight	30	—	30	30	30
Galv. heavyweight	20	20	20	20	20

Tubes and tubulars sizes ½"/⅜" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

TERMS.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works, per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5½	1/2½	4½d.
3½ in.	1/7	1/4	4½d.
4 in.	1/7	1/6	6½d.
4½ in.	1/8½	1/8½	7½d.
5 in.	2/0½	2/0	9d.

O.C. GUTTERS.

3 in.	1/10½	1/7½	5d.
3½ in.	2/1½	1/7½	6½d.
4 in.	2/1½	1/8½	7½d.
4½ in.	2/2½	1/11½	8½d.
5 in.	2/8½	2/3	10½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Stock angles.	Branches.
2 in.	2/2½	1/5½	2/2
2½ in.	2/3½	1/8½	2/7½
3 in.	2/8½	2/1½	3/2
3½ in.	3/2½	2/6½	3/7½
4 in.	3/8½	3/0½	4/5

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches
2 in.	3/9½	2/7½	3/2
2½ in.	4/5	2/10½	3/11½
3 in.	4/9	3/2	4/8½
3½ in.	4/10½	3/11½	5/5½
4 in.	5/3½	4/5	6/3½

L.C.C. COATED DRAIN PIPE.

cwt. qr. lbs. in 9 fts.	per yard.	Bends.	Branches.
3 in. 0 3 14	5/10	6/11	11/–
4 in. 0 1 20	7/11	7/11	13/10
5 in. 1 2 22	10/1	14/2	21/5
6 in. 2 0 6	12/3	16/4	28/4

Gaskin, 75/- per cwt.

	Per ton basis in London. £	s.	d.
IRON.—Staffordshire Crown, Merchant quality	18	7	6
IRON.—Staffordshire Marked Bars	19	7	6
Mild Steel Bars	19	15	0
Mild Steel Hoops	21	10	0
	Ex Merchant's Stock, per ton (two-ton lots).		
Soft Steel Sheets, C.R. and C.A.—			
20 gauge	24	17	6
24 gauge	25	2	6
26 gauge	25	17	6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20 gauge	27	0	0
24 gauge	27	10	0
26 gauge	28	15	0
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	28	10	0
24 gauge	29	0	0
26 gauge	30	5	0
	Per ton		
	£	s.	d.
Cut Nails, 3 in. and up	28	10	0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 2s. 4d. to 2s. 7d. per foot super.

PAINTS, &c.

		£	s.	d.
Raw Linseed Oil (5 galls.)	per gallon	0	6	3
Boiled Linseed Oil (5 galls.)	"	0	6	7
Genuine Ground English White Lead, per cwt.		3	11	9
Genuine White Lead Paint, 14-lb. tins free, per cwt.		4	16	6
Genuine Red Lead	"	2	18	6
Linseed Oil Putty (Kegs extra)	"	1	3	9
Size, XD quality	fkn.	0	4	9

Turpentine substitute can be obtained and prices vary according to quality from 3/8 gallon upwards.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from May 10. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	2/0½	2/0	1/11½	1/11	1/10½	1/10
Labourers	1/7	1/6½	1/6½	1/6	1/5½	1/5½

Aberdeen	A	Dumfriesshire	A2	Inverness	*	Perthshire	A2
Ayrshire	A	Dundee	A	Inverurie	A1	Peterhead	A1
Banff	B	Dunoon	A	Kincardineshire	A2	Renfrewshire	A
Berwickshire	A2	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A2
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A2
Doune	A	Forfarshire	A2	Moray and Nairn	B	Stewartry	A2
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A2	Stornoway	A2
Dumfries	A1	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

*This town has its own rates: Masons, 1/9½; Carpenters, 1/9½; Slaters, 1/9½; Plumbers, 1/10; Plasterers, 1/10½ but 1/11 is paid owing to the scarcity at present; Painters, 1/9½ and Labourers, 1/5.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 459

VARNISHES, &c.

		Per gallon. £	s.	d.
Oak Varnish	Outside	0	16	0
Fine do.	"	0	18	0
Fine Copal	"	1	0	0
Pale Copal	"	1	2	0
Pale Opal Carriage	"	1	6	0
Best do. do.	"	1	14	0
Floor Varnish	Inside	1	0	0
Fine Pale Paper	"	1	0	0
Fine Copal Cabinet	"	1	4	0
Fine Copal Flatting	"	1	2	0
Hard Drying Oak	"	1	0	0
Fine Hard Drying Oak	"	1	1	6
Fine Copal Varnish	"	1	2	6
Pale do.	"	1	14	0
Best do.	"	1	4	6
Best Japan Gold Size	"	1	14	6
Best Black Japan	"	0	12	0
Oak and Mahogany Stain (water)		0	14	0
Brunswick Black		0	9	6
Berlin Black		0	16	0
Knotting (patent)		0	17	0
French and Brush Polish		0	14	0
Liquid Dryers in Terebene		0	11	0

LEAD, &c.

(Delivered in London.)	Per ton. £	s.	d.
LEAD.—Sheet, English, 4 lb. and up	38	0	0
Pipe in coils	38	10	0
Soil pipe	42	10	0
Compo pipe	47	10	0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £18 0 0.

The Hall Mark AYGEE of Craftsmanship

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THE SCOTTISH BUILDER

NEW BUILDINGS

BARGEDDIE.—Plans prepared for alterations and extensions, for which the architects are James Davidson & Son, 6, Academy-st., Coatbridge.

GLASGOW.—Plans prepared for alterations and additions, for which the architects are Wylie, Shanks & Wylie, 204, West Regent-st., Glasgow.—Plans prepared for garages, for which the architect is C. Brogan, 109, Hill-st., Glasgow.

GLASGOW.—Plans prepared for nursery centre at Adelphia-ter. school, for which the architect is Mr. John MacNab, 129, Bath-st., Glasgow.

LANARKSHIRE.—Plans prepared for garage, for which the architect is John Munro, Lochend House, Lambhill, Glasgow.

STEPPS.—Plans prepared for new buildings at Cardowan colliery, for which the architect is James Taylor, 220, West Regent-st., Glasgow.

The British Legion and Building.

The British Legion is investigating the possibilities for the employment of ex-Service men in the building industry after the war. The Government White Paper on the subject has suggested that a personnel of one and a quarter million will be needed after the war.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY CUT SIZES.

	Per ft. super. d.
18 oz.	3½
24 oz. Clear or "R" quality	4½
26 oz.	5½
32 oz.	7½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft. s.	d.
Rolled plate, ¼ in.		5½d.
Rough cast double rolled, ⅛ in.		6½d.
Rough cast double rolled, ¼ in.		6½d.
Figured rolled, and Cathedral, white		6½d.
Figured rolled and Cathedral, tinted		9½d.
Rolled Sheet		6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick		10½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s.	d.
Wire Rolled, ¼ in. thick	0	9½
Wire Cast, ¼ in. thick	0	9½
Georgian Wired Cast	0	10
"Calores" Sheet, 21 oz.	2	6
" 32 oz.	4	0
" Cast, ¼ in. thick	0	9½
" " ⅛ in. thick	1	0
" " ¼ in. thick	1	2
Non Actinic Glass, ¼ in. thick	0	9½
" " " ⅛ in. thick	1	0
" " " ¼ in. thick	1	2

"VITA" GLASS.

	Per ft. s.	d.
"Vita" Plate Glass, about ⅛ in. thick—		
To 7 ft. super	5	0
Over 7 ft. super	7	6
"Vita" Sheet Glass, about 18/20 oz.	2	0
Cathedral "Vita" Glass:		
¼ in. thickness	2	0
⅛ in. "	3	0
⅛ in. Georgian Wired "Vita" Glass	3	6

GLASS BRICKS.

	s.	d.	
P.B. 1—8 in. × 4¼ in. × 3¼ in.	2	9	each nett
P.B. 2—5¼ in. × 5¼ in. × 3¼ in.	2	6	"
P.B. 3—7¼ in. × 7¼ in. × 3¼ in.	3	6	"
P.B. 32—7¼ in. × 7¼ in. × 3¼ in.	3	6	"

Radiused Corner Bricks to match up with—

P.B. 2	4	6	each nett
P.B. 3	6	0	"
P.B. 32	6	0	"

IS A HANDYMAN A LABOURER ?

APPEAL AGAINST N.S. OFFICER'S DIRECTION TO WORK AS A LABOURER.

Is a craftsman a labourer? Essex Quarter Sessions Appeals Committee, at Chelmsford, on November 19, wrestled with this knotty point when Arthur Burton, of Mawney-road, Romford, describing himself as a bricklayer, slater, tiler and scaffolder, and, therefore, as a craftsman, requested that a conviction and fine of £5 by the Romford Justices for failing to comply with the direction of the National Service Officer to work as a labourer be quashed.

Burton contended that he had worked in the Romford district for 15 years as a builder's handyman, during which time he worked as a bricklayer, carpenter, tiler, slater and scaffolder, according to the demands of the job on which he was engaged, and was not to be classified as a labourer. The National Service Officer at Ilford, however, had directed him to work as a labourer at one of Wimpey's jobs at Tenterden, in Kent. If he obeyed the direction he would get 24s. a week lodging allowance, but his wages would be reduced from 1s. 10d. or 2s. per hour to 1s. 7d. and he would be unable adequately to support his home.

Mr. Alban Gordon, for respondent Justices, said Burton had already appealed to the Tribunal set up by Parliament to hear such cases, and that Tribunal had confirmed the direction of the National Service Officer.

"If I may say so," added counsel, "Burton seems to have a genuine grievance so far as his rates of pay are concerned, but, of course, grievances have nothing to do with the law.

"Hundreds and thousands of men have gone to the Army and other Services and are risking their lives for much less than they are accustomed to get in civil life."

Mr. Tolstoy, for Burton, submitted that the direction of the National Service Officer was bad in law, as Burton's industrial record showed that he was a slater, tiler, bricklayer, etc., and therefore not eligible for classification as a labourer.

Mr. Gordon replied that as a builder's handyman Burton was a "jack of all trades," and, in a technical sense, master of none, and, from a Trade Union point of view, was not qualified in any one line.

Walter Stedman, master builder, Craven-gardens, Barkingside, a member of the London Master Builders' Association, told the Court that it had been agreed that a builder's handyman was not to be classified as a labourer. He could, however, be described as a craftsman.

The appeal was dismissed with costs.

DAYLIGHT ILLUMINATION

IN FACTORIES AND WORKSHOPS.

THE December issue of the *Journal of the Junior Institution of Engineers* contains the full text of a paper on the above subject read before that body by Mr. Percy J. Waldram, F.S.I. It is intended to serve as a simple, straightforward exposition of the standard methods of measuring and of predetermining daylight to those who have never had occasion to study them, and also to provide practical means for useful measurements by engineers, factory owners and factory inspectors. It is hoped, also, that it may serve to enable architects and town planners to form their own opinions as to the needs of post-war planning. Copies may be obtained from 39, Victoria-street, S.W., price 2s. 6d. each.

TRANSPORT AFTER THE WAR

NATIONAL TRANSPORT TRUST SUGGESTED.

IN a paper read before the Institution of Civil Engineers on November 23, MR. B. D. RICHARDS put forward a proposal for a National Transport Trust. "The time has come," he said, "when the transport system of the country should be reviewed as a whole and should no longer be considered and dealt with as a series of independent units."

The purpose of the scheme he had drawn up was (said the speaker) to secure a co-ordinated system with the minimum of dislocation of the existing units. The method proposed was the linking of the various systems by means of financial control exercised by a Transport Board operating as a Trust. It was proposed to include the following units: Railways, Classified Roads, Canals (excluding ship canals), Coastal Shipping Ports and parts of ports owned by or leased to coastal shipping services, Motor Road Passenger Transport Services.

The following services should be independently owned and operated, but should be subject to a measure of regulation as regards conditions of working and rate tariffs: Motor Road Goods Transport, Canal Shipping, and Coastal Shipping; and included or otherwise, as might be determined later, should be the internal services only of Airports, Air Passenger Services, and Air Goods Transport.

The units to be definitely excluded were: Local passenger transport services within town limits operated or regulated by local authorities; and the London Passenger Transport Board and any similar amalgamation of local passenger services in densely populated areas that may be formed.

The general principle governing the administration of each of the units was that each branch of transport would be divided into regional groups (the four main railways form natural groups), each of which should be self-controlled as regards operation, thus decentralising executive functions. The regional groups of a branch should be co-ordinated by a Board or Joint Executive Committee for each branch.

The objects of the Transport Council would be to secure that each transport unit should serve the specific purpose to which it was adapted to eliminate all competition between or within the units; to develop and operate transport as a national utility and to safeguard the interests of the public. Control would be mainly exercised through the tariffs and licensing system, and the constitution of the Council implies that it would be in a large measure a co-ordinating body.

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OFFICIAL NOTIFICATION

Sand and Gravel Producers to Render New Returns.

Producers of sand and gravel, including shingle and ballast, were required under an Order (S.R. & O. 1943, No. 1586, H.M.S.O., 1d.) made by the Minister of Works to make a return by December 1 of all pits, quarries and other places where these materials are extracted or landed, and thereafter to furnish particulars as to output each quarter.

Returns have to be made to the Director of Roofing and Other Materials, Ministry of Works, Lambeth Bridge House, Albert Embankment, London, S.E.1, from whom the necessary form can be obtained.

FUTURE CONSTRUCTION

The Editor welcomes authentic information for this section from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

DECEMBER 6.

Beckenham T.C.—Erection and completion of prefabricated concrete nursery building, together with brick-built shelter at West Wickham. James Dove, A.M.Inst.C.E., B.E. and S., Town Hall. Dep. £2.

Hillsborough R.D.C.—Erection of action station and minor alterations to wardens' post. Gamble and Maxwell, 35, Royal-ave., Belfast. Dep. £2 2s.

Milford Haven U.D.C.—(1) Erection of steel garages, Tarran hut and equipment; (2) alterations and repairs to Marine House. E. and S., Town Hall.

Richmond (Surrey) T.C.—For making good damage to 2 houses. B.E., Hotham House, Heron Court, Richmond. Dep. £1 1s.

St. Albans T.C.—Alterations and additions to mortuary. F. T. Negus, City E. and S., 38, St. Peter's-st., St. Albans. Dep. £1 1s.

DECEMBER 7.

Hertford T.C.—Alterations to premises for rescue service and ambulance depots. B.S.

DECEMBER 8.

Salford T.C.—Erection of buildings at Hope Hospital. City E.

DECEMBER 9.

Brierfield U.D.C.—Completion of 18 houses in course of erection at Mansfield estate. S. Dep. £1 1s.

DECEMBER 11.

Gillingham T.C.—Repair and reinstatement of 1, Charter-st. B.E. and S. Dep. £1 1s.

DECEMBER 13.

Wallasey T.C.—Part reinstatement of Barlston House, B.E.

Warrington Civil Defence Emergency Committee.—Erection of garages for three civil defence rescue service depots. B.E. and S.

DECEMBER 14.

Rochester T.C.—Reconstruction of temporary school. City S. Dep. £2 2s.

DECEMBER 29.

Merton and Morden U.D.C.—Maintenance repairs and redecorations of 530 houses. E. and S., Morden Hall, S.W.19.

PAINTING, ELECTRIC LIGHTING, HEATING, ETC.

DECEMBER 6.

Mansfield E.C.—Internal cleaning and painting at Pleasley Hill Schools. W. Thompson, B.E. and S., Carr Bank, Mansfield. Dep. £1 1s.

DECEMBER 8.

Bracebridge Heath Hospital Committee of Visitors.—External decoration of wards, etc.

C. of W., Bracebridge Heath Hospital, nr. Lincoln.

DECEMBER 15.

Manchester T.C.—Cleaning and painting of portion of gasholders. J. H. Cadman, Commercial Manager and Secretary, Gas Dept., Town Hall.

DECEMBER 16.

Bolton T.C.—Interior decorating of 947 houses. Housing Director.

ENGINEERING, IRON AND STEEL

DECEMBER 6.

Newport Pagnell U.D.C.—For laying 250 yds. of 9-in. porous concrete pipes and other incidental works. J. F. Hopkins, S., 69, High-st., Newport Pagnell. Dep. £1 1s.

ROAD MATERIALS, ETC.

DECEMBER 10.

Notts. C.C.—C., Shire Hall.

DECEMBER 13.

Cumberland C.C.—C., The Courts, Carlisle.

DECEMBER 15.

Buxton T.C.—B.E.

DECEMBER 18.

Montgomeryshire C.C.—County S., County Offices, Welshpool.

West Riding C.C.—C., County Hall, Wakefield.

ROAD, SEWERAGE AND WATER WORKS

DECEMBER 6.

Sutton and Cheam T.C.—Extension of Sutton cemetery. N. H. Michell, B.E. and S.

Weymouth T.C.—Making up roads, Dennis Estate. B.S., 1a, Frederick-pl.

PUBLIC APPOINTMENTS

DECEMBER 6.

Newcastle-under-Lyme B.C. — Temporary Architectural Assistant. £300-£10-£360, plus £45 bonus. J. Griffith, T.C.

DECEMBER 11.

West Sussex C.C.—(1) Temporary Senior Draughtsman £230-£15-£325, plus overtime and bonus; (2) Junior Draughtsman. T. C. Hayward, Clerk of C.C., County Hall, Chichester.

DECEMBER 15.

Brighton Technical College. — Full-time Teacher for Plumbing Trade Classes, and to assist in work of General Building Course. Forms of application from F. Herbert Toyne, 54, Old Steine, Brighton. 1.

GENERAL BUILDING WORK

Beverley.—East Riding C.C. propose maternity unit at Beverley hospital.

Bilston.—Committee of National Council for Women propose youth centre.

Bingley.—U.D.C. approved site at Myrtle Park for erection of prefabricated building for day nursery.—Libraries Committee propose alterations and additions at central library.

Clayton (Staffs).—Parker's Burslem Brewery, Ltd., Burslem, Stoke-on-Trent, propose erection of hotel.

Darley Dale.—Church Building Council of St. Helen's Parish Church propose restoration of roof and fabric at £600. Plans by E. G. Kington (Houfton & Kington), Market-pl., Chesterfield.

Denbighshire.—E.C. propose erection of temporary school at Llysfasi.

Gateshead.—E.C. considering provision of nursery school at Rose-st.

Huntingdon.—R.D.C. approved two houses at North Farm, Little Stukeley, for M. & N. Golodetz. Three Horseshoes Farm, Great Stukeley.

Lincs (Holland Div.).—C.C. propose alterations to premises at Wyberton-rd. West, Boston, for maternity unit, at £800.

Macclesfield.—Managers of St. Andrew's C.E. schools propose new sanitary conveniences, at £250-£300.

Manchester.—E.C. propose erection of prefabricated building as extensions to school at Brownley Green.

Middlesbrough.—Plans approved for store for Binns, Ltd. (architects, W. & T. R. Milburn, 17, Fawcett-st., Sunderland); T. Crawford, Borough-rd., Middlesbrough, is architect for alterations at Cornfield-rd., for Society of Friends; Kitching & Co., 40, Albert-rd., Middlesbrough, prepared plans for garage.

Morpeth.—C. F. Murphy, Bridge-rd., Morpeth, prepared plans for improvements to farm cottages and buildings.

Rugby.—Warwickshire Association for the Blind, 14, Northgate, Warwick, propose conversion of "The Towers," Hillmorton, for hostel for blind women.

Sowerby Bridge.—E.C. propose nursery class at Bolton Brow school.

York.—E.C. propose erection of technical college.—Committee of Y.W.C.A. have acquired "Cumberland House" for adaptation as community centre.

BRITISH RESTAURANTS AND CANTEENS

Brighouse.—T.C. propose structural alterations and equipment for school feeding scheme at St. Martin's C. of E. schools.

Durham.—County E.C. to provide school kitchens and scullieries at schools throughout the county area. Plans by County Architect, 34, Old Elvet, Durham.

Egremont.—P.C. propose B.R.

Glasgow. — Plans prepared for canteen at Duke-st., for which the architect is Thomas Cordiner, 261, West George-st., Glasgow.

Hartington.—Derbyshire E.C. preparing plans for school kitchen for feeding centre. Plans by A. Harrison (F.), County Architect, County Offices, St. Mary's Gate, Derby.

Huddersfield.—T.C. propose B.R. at Lindley.

Hyde.—E.C. propose school feeding centre at Union-st. schools.

Leeds.—E.C. propose school canteen at Windhill-rd., Belle Isle.

Oldham.—Dixon Hill & Co. (F.), 52, Union-st., are architects for works canteen.

Oldham.—James Stott, Ltd., cotton spinners, Hartford Mill, Edward-st., propose works canteen.

Repton.—R.D.C. received approval of M.O.F. for erection of B.R. at Woodville, nr. Burton-on-Trent.

Stalybridge.—W. A. Dew (L.), Market-chbrs., Hyde, Cheshire, is architect for works canteen.

Walsall.—T.C. propose fourth B.R. at Pinfold, nr. Bloxwich.

Wednesbury.—T.C. approved plans for B.R. at Church-st., at £7,168.

A.R.P. SCHEMES

PROVINCIAL.

Bromsgrove.—R.D.C. accepted tenders submitted by J. & A. Brazier, Ltd., Worcester-rd., Bromsgrove, for construction of concrete base for static water tank, at £65, and of Trussed Concrete Steel Co., Ltd., Mill-st., Brierley Hill, Staffs, for 20 static water tanks, at £8 7s. 6d. each, for N.F.S.

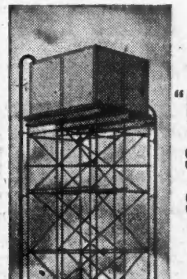
Lleyn (Caernarvonshire).—R.D.C. propose conversion of premises at Nevin for public mortuary.

Manchester.—W. Thorpe & Son, Ltd., 380, Chester-rd., Cornbrook, have secured contract for erection of fire pump house and store to factory to plans prepared by H. S. Fairhurst & Son (FF.), Chancery-chbrs., 55, Brown-st.

Newtown (Mont).—U.D.C. approved construction of pumping station, for N.F.S.

Northumberland.—C.C. placed contract with Fred Hope, of Gosforth, at £183, for erection of shelter at Newburn Walbottle school.

Rushden.—N.F.S. propose erection of garages, dormitories, messroom, kitchen, etc., at U.D.C. highway depot.



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* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Bromsgrove.—Additions to "The Gables," New-rd., Rubery: *R. E. Griffin, Stourbridge-rd., Catshill, Bromsgrove.

Leeds.—Erection of boiler-house and other alterations at North Lodge Institution, Beckett-st., for P.A.C. Kitson, Parish, Ledgard & Pyman, architects, Lloyds Bank-bldgs., Vicar-la.: *Armitage & Hodgson, Ltd., Camp-rd., Saw Mills, Leeds 7, £8,050.

¶London (Air Ministry).—List of new contracts to value of £500 or over for week ended November 27.

Electrical wiring work: Alpha Manufacturing and Electrical Co., Ltd., London, S.W.4; Jas. Scott & Co., Dunfermline.

Building work: F. Troy & Co., Ltd., London, N.W.3; Scottish Aviation, Ltd., Prestwick, Ayrshire; W. Peak, Warrington.

Structural steelwork: Redpath Brown & Co., Ltd., Glasgow, C.2.

Erection of structural steelwork: G. M. Carter (Erectors), Ltd., Newcastle-on-Tyne, 2.

Drainage work: C. Jenner & Sons, Ltd., Maidstone, Kent.

Aerodrome surface work: Staplefield Tractor Co., Haywards Heath, Sussex; Maxwell M. Hart, Ltd., Glasgow, C.1.

Civil engineering work: Jas. White (Contractors), Ltd., Edinburgh; Sir Alfred McAlpine & Son, Ltd., Hooton, Ches.

General maintenance work: E. Coleman, Ltd., East Kirby, Notts.; Comben & Wakeling, Ltd., Kenton, Middx.; Williams, Bros., Swansea; W. A. James & Sons, Maidenhead; Leightons (Contractors), Ltd., London, W.1; Frank Beny, Warrington, Lancs.; J. Newsome Walker, Ltd., Leeds; W. Greetham & Son, Ltd., Skegness, Lincs.

¶London (Ministry of Works).—Contracts placed by M.O.W. during week ending November 25:—

Berks: Building work, Collier & Catley, Ltd., St. Mary's Butts, Reading.

Durham: Building work, G. C. Hadden Hillman, Ltd., 127, New Bridge-st., Newcastle-on-Tyne; H. Waller, Back Waller-st., Byker, Newcastle-on-Tyne.

Flintshire: Building work, James Crosby & Sons, Ltd., Carr Wood, Hale, Ches.

Glamorgan: Building work, L. G. Mills, 75, Ferry-rd., Cardiff.

Hampshire: Building work, Crosby & Co., Ltd., Lion Works, Farnham, Surrey.

Kent: Building work, Ballard, Longley-rd., Rainham, Kent.

Lancs: Building work, John Turner & Sons (Preston), Ltd., William Henry-st., Preston, Lancs; Mertees Construction Co., Ltd., 28, Cross-st., Manchester.

Northampton: Building work, M. J. Gleeson, Ltd., Chesterfield-rd., Sheffield.

Yorks: Building work, Arthur Robinson (Con.), Ltd., 423, Linthorpe-rd., Middlesbrough; Paul Rhodes, Ltd., Cardigan-la., Leeds 4.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended November 20:—

Yorks: Miscellaneous work, B. Hunter, Scarborough; A. Walker & Co., Saltburn-by-Sea, Yorks.

London, W.2: Miscellaneous work, A. J. Styles, Ltd., London, S.W.19.

Surrey: Hutting (erection) and miscellaneous work, Walker (Tooting), Ltd., Croydon, Surrey.

Bristol: Hutting (erection), Henry Kent (Builders), Ltd., Bath.

Wilts: Miscellaneous work, Kinnear, Moodie & Co., Ltd., London, S.E.13.

Hampshire: Miscellaneous work, W. T. Nicholls (Southern), Ltd., Southampton.

Devon: Hutting (erection), T. Vanstone & Sons, Torquay.

Londonderry: Hutting (erection), J. Bakin & Co., Londonderry.

Co. Antrim: Hutting (erection), Wm. Dowling, Ltd., Belfast; Connor & Beattie, Belfast; W. J. Jeffers, Belfast.

Co. Down: Hutting (erection), Sloan Bros., Belfast.

Longbridge.—Erection of two prefabricated buildings, foundations and drainage, also small brick boiler-house, etc., for use as school buildings at Cofton Common, for Worcestershire E.C. Henry Rowe & Son, County Architects, 38, Foregate-st., Worcester: *The Midland Trust Co., Ltd., 138, Lodge-rd., Winson Green, Birmingham 18, £2,475.

Manchester.—Block of offices to works, Richmond-st., Trafford Park: *F. E. Gill & Sons, Ashburton-rd., Trafford Park, Manchester 17.

Montgomeryshire.—Structural alterations at Churchstoke C.E. school for school kitchen, for E.C. T. G. Davies, D. of E., County Offices, Newtown: *Maurice Jones, The Brades, Montgomery, £212 15s.

Northumberland.—Erection of canteen at Shilbottle school, for C.C.: *R. & G. Brown, Ltd., Amble, £675.

Oldham.—Erection of works canteen for Bell Mill Co., Ltd. Arthur Turner & Son, architects, 11, Clegg-st: *Whitworth, Whittaker & Co., Ltd., Robin Hill Works, Rochdale-rd., Oldham.

Oldham.—Erection of works canteen, lavatories, etc., for Lees New Royd Mill Co., Ltd., cotton spinners, Waterhead: *Ogden Bros., 849, Middleton-rd., Oldham.

Patricroft.—Additions to factory: *Brookes Bros., 40, Ellesmere-st., Patricroft, nr. Manchester.

South Shields.—For extensions to premises: *Henderson Bros., Smith-st., Tyne Dock, South Shields.

Stockport.—Alterations for works canteen, lavatories, etc.: *E. B. Jones & Rawlinson, Ltd., Leaf-sq., Pendleton, Salford 6.

Stockport.—Alterations and additions to Davenport creamery, for J. J. Major, Davenport Creamery, 193, Bramhall-la., Davenport: *Roger B. Key, Hyde-rd. Works, Woodley, nr. Hyde, Ches.

Tipton.—T.C. placed contract with N. Hyde, Claremont-rd., Sedgley, Staffs, at £393, for construction of three reinforced concrete static water tanks. Horace N. Woodard, M.Inst.M. & Cy.E., S.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

EDWARD FOOTE, LTD. (382555). — Regd. September 4. 154, Albany-st., N.W. Builders, carriers, builders' merchants, etc. Nom. cap.: £1,000. Dirs.: To be apptd. by subs.: T. J. Birmingham and H. F. Ruffell, 22, College-hill, E.C.4.

SMITH AND SON (HACKNEY ROAD), LTD. (382571). Regd. September 4. 430, Hackney-rd., E.2. Bldrs. merchts., etc. Nom. cap.: £100. Dirs.: H. Smith and J. E. Langford.

COLGROUT, LTD. (382610).—Regd. Sept. 8. Gunln., Strood, Kent. Mnfrs. of and dlrs. in reinforced and other concrete, aggregate, cement, etc. Nom. cap.: £10,000. Dirs.: J. C. Gammon, Winchester House, E.C.; J. S. Morgan, Norrard, Watling-st., Strood, and L. Walton, Nell Gwynn House, Sloane-ave., Chelsea (nominated by Colcrete, Ltd.); J. W. Woods, Northfield, Chapeltown-rd., Turton, Bolton (nominated by Leonard Fairclough, Ltd.); H. Clayton, Wayside, Cheam, Surrey, and A. R. Neelands, Bentley Works, Doncaster (nominated by the Cementation Co.'s (Subsidiaries), Ltd.).

SNODLAND SILICA BRICK AND STONE CO., LTD. (382663).—Regd. Sept. 10. Silica Brickworks, Ham Hill, Snodland, Kent. Nom. cap.: £2,000 in 1s. shares. Dirs. not named.

C. FIRBANK (SUSSEX), LTD. (382715).—Regd. Sept. 15. 167-170, Fleet-st., E.C.4. Works contractors, tar macadam mnfrs., quarry owners, bldrs.' mchts., etc. Nom. cap.: £1,000. Dirs.: S. M. Firbank, Greenwarp, Townsend-la., Harpenden, Herts, and others.

MANNING-STEVENS, LTD. (382815). Regd. Sept. 20. 22, Victoria-st., S.W.1. Bldrs.' agents and mchts., etc. Nom. cap.: £1,000. Dir.: R. de Coux Stevens, 3, Queen's Mead-rd., Bromley.

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